AUG 13 1927

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THE JOURNAL

OF THE

American Medical Association

Annual Subscription, $5.00 · PUBLISHED WEEKLY · Single Copies, 20 Cents

VOLUME 89, No. 7 — 535 North Dearborn Street, CHICAGO, ILL. — AUGUST 13, 1927

CONTENTS AND SUBJECT INDEX

The Unexplored Field of Preventive Medicine in Private Practice. W. F. Draper, M.D., Washington, D. C...491

Treatment of the Cardiac Disturbances Due to Thyroid Disease. J. Marion Read, M.D., San Francisco.....493

The Rehabilitation of Cardiac Patients Through Organized Effort. Lewis A. Conner, M.D., New York.....496

Papers of Drs. Eyster, Hatcher and Weiss, Levy and Mackie, White, Read and Conner discussed by Drs. Wyckoff, Bishop, Eggleston, Plummer, Anderson, Naurison, Keith, Eyster, Mackie, Read and Conner.

Survey of the Actual Value of Hydrotherapy. Guy Hinsdale, M.D., Hot Springs, Va. 502

Discussed by Drs. Anders, Abbott, Offutt and Hinsdale.

Paranasal Sinus Infection and Swimming. Frederick E. Hasty, M.D., Nashville, Tenn. 507

Discussed by Drs. Taylor, Heitger, Fiske, Cullom, Rothrath and Hasty.

Time of Conception and of Ovulation in Relation to Menstrual Cycle. S. A. Asdell, Ph.D., Rochester, N. Y....509

Hexylresorcinol in Urinary Tract Infections: Therapeutic Effect. Carl W. Eberbach, M.D., and Roy D. Arn, M.D., Ann Arbor, Mich. 512

Ephedrine in Asthma and Hay-Fever: Value of Ephedrine as Shown by Its Use in One Hundred and Ten Cases of Asthma and Twenty Cases of Hay-Fever. George Piness, M.D., and Hyman Miller, M.D., Los Angeles.515

Periarterial Sympathectomy in Epilepsy. Henry L. Hirsch, M.D.; Max Weiss, M.D.; Leon Izgur, M.D., and Archibald Lauerman, M.D., New York..516

Diuresis Versus Antisepsis in the Treatment of Urinary Infections: With a Note on Drug Rotation. Veader Leonard, M.D., Baltimore.....517

The Control of Hyperthyroidism by Thyroidectomy: Results in One Hundred Cases. Charles A. Elliott, M.D., Chicago 519

CLINICAL NOTES, SUGGESTIONS AND NEW INSTRUMENTS

Two Cases in which Death Followed Insufflation of the Fallopian Tubes. G. L. Moench, M.D., New York..522

The Anatoxic Effect of Bile on Typhosus Cultures. G. E. Pangalos, M.D., Athens, Greece.....523

EDITORIALS

Liver Extracts in Anemia.....524

Albrecht Kossel.....524

Immunity from Tuberculosis.....525

Thymic Symptoms.....525

CURRENT COMMENT

Heat-Stroke 526

Bile and Pancreatic Secretion.....526

Watermanship Versus Swimming Qualification 526

"Your Money's Worth".....527

Psychoanalysis 527

(Subject Index on next page)

Entered as Second-Class Matter, June 25, 1885, at the Postoffice at Chicago, Ill., under Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on June 14, 1918. If undeliverable, return postage is guaranteed

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Bulletin

NEW BOOKS

Opposite and on Pages 3, 4 and 5 we briefly describe today 13 new books and new editions. Certainly, you will find one or more of these well worth adding to your library.

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Other SAUNDERS BOOKS on Pages 3, 4, 5

SUBJECT INDEX TO THIS ISSUE

The letters used to explain in which department the matter indexed appears are as follows: The Star (*) indicates an Original Article; "ab," abstract; "E," Editorial; "C," Correspondence; "Ml," Medicolegal; "ME," Medical Economics.

Abderhalden's reaction ab-567
Abortion, criminal: surgical instruments as evidence Ml-550
spontaneous, fatal hemorrhage after....ab-567
Acromegaly, metabolism in....ab-554
Addison's Disease with diabetes....ab-554
Albuminocholia, experimental ab-566
Amidopyrine in hiccup and in arthritis..ab-566
Anaphylaxis and roentgen rays....ab-565
shock in rats....ab-567
Anemia, liver extracts in....E-524; 535
Angina Pectoris ab-564
cervical sympathectomy for....ab-553
Anthrax, vaccination, edema fluid in....ab-561
Antisepsis in urinary infections....*517
Anus, continent sacral....ab-564
Appendicitis, chronic ab-555
Argentine Medical Association....538
Argyria ab-556
Arsphenamines, toxicity....538
Arthritis, amidopyrine in....ab-566
Asthma, curability ab-554
desensitization method in....ab-562
ephedrine in *515
Bacillus tumefaciens, plastin of....ab-567
acid-fast, antigenic character....ab-567
Baths, whirlpool, Nauheim, Brand, etc....*502
Benzene, relative toxicity....ab-553
Beriberi, acidosis in....ab-560
Bile, effect on bacteriophagic action....ab-558
anatoxic effect on typhosus cultures....*523
pancreatic secretion and....E-526
Bismuth dermatitis ab-556
treatment, death from....ab-563
Blood, anemic, buffered stains for....ab-565
cells, electrostatic charge of....ab-564
chlorides in milch cows....ab-563
coagulation and complement....ab-563
cold effect on ab-560
groups and therapeutic malaria....ab-566
hyperglycemia, mechanism ab-568
picture, morphologic, inconstancy of..ab-565
pressure, high, treatment....ab-554
pressure vs. operations....ab-559
regeneration vs. intestinal toxins....ab-558
regeneration vs. organ extracts....ab-558
studies, normal ab-554
volume, determination ab-564
Bloodletting, technic ab-566
resistance of hemoglobin and....ab-566
Book Notices 545
Books Received....547
Brain, biochemistry of....539
Bronchopneumonia, hydrotherapy ab-506
Calcification vs. parathyroid extract....ab-555
Cancer, alleged protozoons in....ab-567
Botelho's serum reaction....ab-556
in Porto Rico....ab-557
racial and age incidence....ab-555
tar, skin-organic changes in....ab-568
Carbohydrate metabolism, anoxybiotic...ab-563
Chickenpox and smallpox diagnosis....ab-559
Cholera, causal organism of....ab-559
Conception, time of, and menstruation....*509
Cornea herpes and trauma....ab-562
Correspondence 542
Craniotabes and rickets....ab-561
Curry, pharmacology ab-566
Death certification reform....549
Deaths 540
Diabetes Mellitus, synthalin in....ab-561
coma, chlorine and sodium in organs..ab-561
tuberculosis and insulin....ab-564
with Addison's disease....ab-554
Dethol 542
Diet and disease....ab-553
highly purified, deficiency with....ab-558
ultraviolet rays radiation and....ab-559
Digitalis, dilute acids effect on....ab-560
strophanthin and....543
Diphtheria toxin, adsorbed erythrocytes.ab-563
Diuresis and hepatic circulation....ab-562
in urinary infections....*517
Dose, injuring, predisposition function of.ab-566
Drowning vs. swimming qualification....E-526
Drugs, rotation of....*517
intrahepatic administration....ab-557
synthesis of ab-565
Eclampsia in mother and child....ab-567
Elbow, fracture ab-560
Embolism, pulmonary ab-555
Embolism, air, venous and arterial....ab-565
Encephalitis, epidemic, new form....ab-566
Endocarditis, acute vegetative....ab-557
Eno 542
Ephedrine in asthma and hay-fever....*515
nonsympathomimetic action ab-558
Epilepsy, periarterial sympathectomy in...*516
Epinephrine in suprarenals and extracts..ab-561
Epithelium, cultivating ab-568
Ergot, effect on streptococcus infection..ab-567
Erythrocytes adsorb diphtheria toxin....ab-563
fragility, spleen and liver....ab-566
Eye, symptom in tabes....ab-566
lesions from smallpox vaccine....ab-561
Fallopian Tubes, insufflation, fatal....*522
Femur, coxa vara luxans....ab-567
Fistula treated with syrupus sacchari....ab-568
Flit 542
Food, liability of restaurant owner....Ml-552
Foreign Letters 534
Gallbladder, disease, bile bilirubin in....ab-555
calculi, enormous number....C-542
Glycosuria, new preformed substance for.ab-565
Goiter, toxic, bacteriology....ab-557
Government Services 533
Hay-Fever, ephedrine in *515
bromine in ab-566
in Porto Rico ab-557
Health regulations: penal, requirements for validity Ml-551
public vs. demographic problems....537
resorts, study tour of....537
Heart, effect of digitalis....ab-500
disease from latent syphilis....ab-553
disorders due to thyroid disease....*493
patients, rehabilitation *496
Heat-stroke E-526
Hexylresorcinol in urinary infections..*512, *517
Hiccup, amidopyrine in....ab-566
Hydrotherapy *502
Infants, new-born, ecalmpsia in....ab-567
repeated vomiting in....ab-561
Infections, reciprocal influence of....ab-558
Infectious Diseases, fumigation after....543
Influenza 538
Insanity, hydrotherapy in....*502
Insulin as antiemetic....ab-566
action, mechanism of....ab-562
action, quantitative and optimal....ab-562
Insurance, examinations, evidential value of physician's fee Ml-551
health, "confinement within house"...Ml-552
social, legislation 535
International Congress of Military Medicine 537
Intussusception, alleged cure....ab-564
Jaundice, spirochetal ab-564
Kidney, hemorrhages ab-563
tumor, mixed, congenital....ab-556
Kossel, Albrecht E-524
Leptospiras isolated from water....ab-553
Liver, circulation in, and diuresis....ab-562
extracts in anemia....E-524, 535
injuries, bradycardia in....ab-562
spleen and erythrocyte fragility....ab-566
Lymph nodes tuberculosis, roentgen rays in 536
Malaria, therapeutic, and blood groups..ab-566
control in Malaya....534
Marriages 539
Medical Education, Registration....544
Medical Practice Acts: chiropractic as practice of medicine....Ml-550
evidence, court may consider entire act.Ml-552
Medicine, practice, preventive medicine in.*491
social, progress in Italy....537
Medicolegal 550
Meetings, Coming Meetings....552
Menorrhagia, insulin treatment....ab-567
Menstruation vs. conception and ovulation..*509
Methenamine vs. urine formaldehyde....*517
Moles, removal 543
Muscle, ammonia formation in....ab-564
Nephritis, acidosis in....ab-560
Nervous System, poisoning, metabolism in.ab-562
News 528
Nurses' records and home nursing....C-542
Nystagmus in monocular vision....ab-568
Obesity, hydrotherapy in....*505
Organs, chlorine and sodium in....ab-561
Otitis Media, suppurative, from swimming.*507
Ovary secretion vs. cholesterol....ab-558
Ovulation, time of, vs. menstruation....*509
Pancreas disease, urinary diastase in....ab-567
secretion and bile....E-526
Paranasal sinus infection and swimming..*507
Parathyroid in treatment of sprue....ab-553
Parkinsonism, respiration disturbed in..ab-566
Placenta hormone ab-564
Polycythemia vera, phenylhydrazine in.ab-554
Pregnancy, ectopic, in 3 sisters....ab-560
Preventive Medicine in private practice..*491
Propaganda for Reform....541
Prostate, enlarged, renal function tests in.ab-563
Pruritus vulvae 544
Psychoanalysis E-527
Psychotherapy 536
Pyelitis, hexylresorcinol in....*512
Queries and Minor Notes....542
Rat-Bite Fever, arsphenamine intravenously ab-560
Reading, difficulty in learning to read....ab-563
Reflex, rotation, and narcotics....ab-562
Rheumatic Fever, epidemiology....ab-553
Rheumatism, research institutes....539
Rickets and craniotabes....ab-561
irradiated cholesterol in....ab-559
ultraviolet radiations prevent....ab-558
Rigidity, postmortem ab-563
Ross, Ronald, commemoration gate....534
Russian Society of Liberty Men....539
Sarcoma, Rous, multiple factors in....ab-556
Sedatives, effect on animals....ab-562
Skin, color, and corium pigmentation....ab-555
disease, sugar intolerance causes....ab-559
Slander, imputing venereal infection....Ml-550
Smallpox and chickenpox diagnosis....ab-559
reciprocal effect of syphilis on....ab-558
vaccine, grave eye lesions from....ab-561
Society Proceedings 532, 552
Sodium, determination ab-560
Spinal Cord section, movements after....ab-564
Spleen, liver and erythrocyte fragility...ab-566
Splenectomy, liver changes after....ab-565
Sprue, treatment, parathyroid in....ab-553
State Board Examination....544
Stomach cancer from deficient diet....ab-556
contents, titration ab-564
resected, capillaries in....ab-564
Streptococcus infection, ergot for....ab-567
Strophanthin and digitalis....543
Subphrenic processes, roentgen diagnosis..ab-566
Sugar intolerance causes dermatoses....ab-559
Suprarenals and B-avitaminosis....ab-563
Swimming and paranasal sinus infection.*507
qualifications vs. watermanship....E-526
Sympathectomy, periarterial, in epilepsy..*516
Syphilis, flocculation test for....ab-559
arsphenamine in quinine-fast serum lipase ab-564
glycerol cholesterol reaction....ab-555
latent, as cause of heart disease....ab-553
reciprocal effect on smallpox....ab-558
Tabes Dorsalis ocular symptom in....ab-566
Tax, prohibitive, on physicians....539
Tetrachlorethylene, anthelmintic value...ab-553
Thrombosis, coronary ab-553
Thymic symptoms....E-525
Thyroid, fat content ab-555
disease, heart disorders from....*493
remnants, removal of....*521
secretion storage vs. goiter....ab-565
Thyroidectomy in hyperthyroidism....*519
weight and anthropometry after....ab-554
Tissue, roentgen rays effects on....ab-559
Tonics and Sedatives....Adv. page 22
Toxin production and carbon dioxide....ab-558
Trachoma in Argentina....538
Trauma: tuberculosis as caused by....Ml-551
Tubercle Bacillus, filtrability....ab-558
Tuberculosis in Calcutta....ab-559
compulsory notification of....536
heliotherapy in high altitudes....536
immunity from E-525
National Association for Prevention of...535
pulmonary, diabetes and insulin....ab-564
research institutes for....539
resistance among nurses....ab-568
Tumor, immunity, hereditary ab-556
immunization against ab-567
Typhoid, antithrombin test in....ab-554
bacilli, agglutination with tuberculosis blood serum ab-560
bacillus cultures, anatoxic effect of bile.*523
Ultraviolet Rays radiation and diet....ab-559
Uncinariasis, treatment ab-557
tetrachlorethylene in ab-553, ab-557
Urinary Tract infections, hexylresorcinol in.*512
infection, diuresis vs. antisepsis in....*517
Urine, acetonuria, postoperative....ab-563
formaldehyde in, vs. methenamine....*517
Urology, guiding principles of....ab-561
Venereal Diseases, epidemiology....ab-565
Vital Statistics, London....534
Vitamins, B-avitaminosis vs. suprarenals..ab-563
Vomiting, insulin for....ab-566
repeated, in infants....ab-561
Wassermann Test, reliability....544
Wrist Joint fractures....ab-559
"Your Money's Worth"....E-527

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The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 89, NO. 7 CHICAGO, ILLINOIS AUGUST 13, 1927

THE UNEXPLORED FIELD OF PREVENTIVE MEDICINE IN PRIVATE PRACTICE *

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Assistant Surgeon General, U. S. Public Health Service

WASHINGTON, D. C.

The U. S. Public Health Service is a medical organization. Its commissioned corps is composed entirely of doctors of medicine recruited from the ranks of the general profession. Its paramount duty may be said to be the conservation and improvement of the health of the inhabitants of this country, to the extent that the powers and facilities conferred and afforded by Congress make this possible. In performing this duty this service makes use of medical knowledge, the heritage of the centuries of patient and careful observation and experiment which our professional forebears have handed down to us and which we are all endeavoring to perfect and expand. I have made these statements to emphasize the fact that in appearing before this section as a representative of the Public Health Service I come as a medical man representing a medical body—one which shares the traditions, the training, the aspirations and, it must be confessed, the difficulties of the medical profession.

The point of view is different, but similar. The Public Health Service sees a sick nation and seeks to cure it; the practitioner sees a sick patient and endeavors to cure him. The difference of approach lies in the difference in material. When a sick person applies to a physician for treatment there may appear but little to do with regard to that particular patient and his immediate illness except to try to restore him to health. A sick nation, however, is made up of millions of persons only a proportion of whom are at any one time in the ordinary sense sick, but the rest of whom are constantly exposed to the danger of becoming ill. The national problem therefore includes not only the restoration of the sick to health but also the prevention of disease among those who at the time may be healthy.

The first part of this program has been left largely and wisely to the private practitioner. The sick person is an individual and requires individual treatment. The preventive part of the program, however, has been assumed to a great extent in this country by public health agencies for two principal reasons: first, that the general practitioner in America has not been trained to think and act in terms of preventive medicine; and, second, that many of the necessary measures can be applied only by the concerted action brought by a central official organization.

Public health organizations owe their origin to the medical profession. To it also they owe a large part of the scientific information on which they base their methods. To the observations and reports of medical men in practice they are constantly indebted for knowledge of the occurrence, the prevalence and the nature of the diseases which they attempt to combat; but, unfortunately, such is the tradition, the custom, the accepted mechanism of health practice in this country, that only to a slight extent have they utilized or attempted to make use of the enormous potential power of the practicing element of the medical profession in the cause of preventive medicine.

It must be acknowledged that public health agencies can clearly foresee limitations to what can be accomplished by concerted action through official agencies. The limits have by no means been reached, but there is no good reason for delaying the application of any potential help which would not introduce conflicting elements. And it would appear that if the 150,000 physicians in practice in this country could be enlisted in a serious effort to improve and conserve the health of the millions of patients and the families of patients with whom they come into contact, a tremendous impetus could be given to the cause of preventive medicine. It would seem as if under these circumstances we should hold preventable disease as it were between two millstones: the one breaking up the large lumps or masses, the other grinding away at the individual particles.

We are all aware that some not insignificant attempts have been made by members and by associations of the medical profession to increase the interest of practicing physicians in the prevention of disease as distinguished from its cure. Some of these attempts have unfortunately been associated with other projects about which considerable controversy has arisen. I need only mention a few topics to indicate what is meant. Such captions as "state medicine," "contract practice" and "life extension" can hardly be mentioned without arousing various and conflicting emotions in the minds of a medical audience. And yet, with each of the movements represented by these captions, some element of disease prevention by practicing physicians has been associated. My address has nothing to do with a discussion of these factors. The opportunities for preventive work to which I would call attention are not necessarily associated with any movement, organization or development affecting the profession. They concern the individual practitioner alone, and I speak as one physician to another.

I have mentioned that limitations to what can be accomplished by official mass health work are in sight. There is still much to do in the extension and consolidation of current useful activity, and doubtless new meth-

* Chairman's address, read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 18, 1927.

ods will develop as time goes on; but always there will remain the fact that the collective health status of the nation will depend to a very considerable extent on what the individual citizen does as regards his own health and that of his children. Extensive attempts have been made by health organizations to excite the interest of the citizen in the protection of his health. All the ingenious machinery of the leaflet, the poster, the illustrated lecture, the health exhibit and the radio broadcast have been utilized. The visiting health nurse and the consultation clinic are familiar illustrations of the organized attempt to bring information to the public. But it would appear that what would seem *a priori* to be the most fruitful source of advice in matters of personal and domestic hygiene had, in general, been deplorably neglected.

The doctor of medicine, while dealing with an art which may be criticized by mathematicians as inexact, nevertheless has devoted much of the time of his training period to fundamental natural sciences and is accustomed to think in terms of biology, chemistry and physics. He is also, next to the priest, the man of all men who comes most intimately into the confidence of the people. Unfortunately for the present purpose, he has been trained to think more about disease than about health; but there is no more adaptable person in all the world than the physician, and if he can be persuaded of its desirability he can soon learn to enlarge his point of view.

It may justly be inquired what incentives there are which would induce physicians to expand their point of view and become more interested and more active in the prevention of disease. There are several which readily occur to me, and doubtless others exist. The most important incentive is the opportunity for service to humanity. This appeal has never been made to physicians in vain. The second incentive which may be mentioned is the fair promise of increasing remuneration. It is believed that a false sense of delicacy and false interpretation of ethics is what has stood in the way of developments along this line rather than the unwillingness of patients to pay for advice in advance of actual illness. The third item which I will mention is hardly so much an incentive as a compulsion. If I read the signs of the times aright, the time is not far distant when the public is going to demand protective advice from the physician. The time is coming, I think, when a physician will be severely criticized for failure to offer advice on hygienic matters when he has had a chance to make the necessary observations. His reply that he was employed to treat a case of rheumatism, not to criticize the family diet, will come to be considered inadequate.

These observations may appear visionary or chimerical. In support of their soundness I submit the evidence that in other countries, further developed along these lines than we are simply because they have had longer experience, the state of things which I have sketched is already the accepted order. In some instances it goes even further. The official health organization still has important functions, but the bulk of the health work is done by the practicing physician, who is held morally and often legally responsible for its proper performance. I am not arguing for an increased intimacy of official relationship between the physician and the government. I very seriously doubt its desirability. I merely wish to invite attention to a great service to humanity which the profession can perform, and which it seems probable that it will be called on to extend before many years have passed.

The time assigned permits me to discuss but briefly two important additional questions in connection with my subject. First, Is the medical profession equipped at the present time to offer sound, dependable and consistent advice on all the questions of domestic and personal hygiene which may be propounded by those seeking advice? Frankly, I do not see how it can be, or could be expected to be. Little attention has been paid to this aspect of medicine in the colleges up to within the most recent years, and hardly anywhere at the present time can the formal instruction in a purely medical course be described as fully adequate. Nevertheless, there are many sources of reliable information, and, as has been said, the physician is an adaptable person; a physician who can no longer learn is of dubious value to the public in any medical capacity. Many physicians, of course, are already fully equipped to take up this work, and have themselves made some of the most valuable contributions to preventive medicine.

The second question is, What would be the scope of the activities contemplated? There seems to be no good reason for limiting this so long as it can be kept within the subject matter on which a physician can be expected to speak with authority and out of the field which is strictly the province of public health authority. It would be proper, I should think, for the family physician to examine into the sanitary condition of the home itself, and to call attention to obvious health hazards intrinsic therein, as well as to become familiar with the physical and mental status and habits of the members of the family. On the other hand, questions dealt with by local sanitary law should be referred to the health authorities.

The Public Health Service has felt so strongly that an immense power for good was not being adequately utilized that it is very desirous of helping along a process of evolution which, although much hindered and delayed, appears to be ultimately inevitable. It has considered whether the publication of a "check list of opportunities for domestic health practice" would be acceptable to the profession and in any considerable demand by it. It would seem possible with suitable counsel to prepare such a list which should be convenient for reference by physicians desirous of developing this branch of medical activity.

It would be a fair question to ask in just what ways the practicing physician can contribute more to the prevention of disease than he is doing at present. It is believed that ways would become sufficiently apparent if the mental attitude were changed to include the idea. A few illustrations will show some of the procedures that readily occur. One of the first and easiest steps would be the full carrying out of one of the oldest tenets of medicine, which is to treat the patient rather than the disease. This presupposes a thorough examination of the patient and the discovery of any incipient disease or predisposition which he may have in addition to, or associated with, the particular complaint which brings him to the physician. This examination should include not only the physical body but also the whole man—his habits and his mental worries and how he deals with them. It is not to be supposed that every physician will be a competent psychiatrist; nevertheless, present-day training should be sufficient, taken in conjunction with the intimate relation of confidence that should exist between physician and patient, to lay the basis for some very effective work in mental hygiene.

Thus far I have considered what may be done in the office and with office patients. When the physician visits

the family an immense field of preventive medicine becomes opened to his productive cultivation. It is my impression that the old-fashioned family physician knew far more about his families and their members as regards both their physical condition and their mental comfort than is the case nowadays. Undoubtedly, an enlightened return to this more intimate relationship would be better for the public and also, as I think, for the physician. Is there any good reason why the discovery of defects in the children of families in which a physician attends the adult members should be left to the school medical examination, if there happens to be one? Should not the family physician have detected and treated these in their incipience? And so with the adult members of families in which the children have been attended by so-called family physicians. Must their dietary diseases, their hernias, their tuberculosis, their mental maladjustments go unrecognized until the patient himself or his relatives or employers or society in general complains of them?

The alarming extent to which defects and disease do go unrecognized until it is too late to accomplish anything more than palliation is sufficient evidence that somebody has failed. It is easy to blame it on the ignorance or carelessness of the individual, but I believe that much of this wastage could fairly be laid at the door of the physician who has neglected abundant opportunities for service, and also for legitimate and compensable medical practice.

TREATMENT OF THE CARDIAC DISTURBANCES DUE TO THYROID DISEASE *

J. MARION READ, M.D.
SAN FRANCISCO

[EDITORIAL NOTE.—This paper, together with that of Dr. Conner, which follows it, concludes the symposium on the treatment of heart disease. In the last issue were published the papers of Dr. Eyster, Drs. Hatcher and Weiss, Drs. Levy and Mackie, and Dr. White.]

The cardiac dysfunctions traceable directly to pathologic changes in the thyroid may be grouped under three general headings: (1) those due to hypothyroidism; (2) those secondary to obstructed respiration, and (3) those occurring in hyperthyroidism.

MYXEDEMA

Zondek,[1] in 1918, first called attention to a type of cardiac disturbance occurring in hypothyroidism. In 1925, Fahr [2] reported four cases with dilatation of all the heart chambers, characteristic electrocardiographic changes and congestive failure, which did not respond to rest and digitalis but promptly yielded to thyroid medication. Reports of the cardiac status in myxedema have been made by Willius and Haines,[3] Thacher and White,[4] and Christian,[5] but not one of these investigators has reported any striking or constant manifestations of cardiac failure definitely traceable to hypothyroidism.

Deviations from the normal electrocardiogram, such as inverted T wave (leads I and II) and low potential in all deflections, are not certain evidence of myocardial injury since they occur in nearly all hypothyroid individuals and disappear under thyroid medication. Lueg [6] has recently shown that the flattening of the P and T waves is produced by the altered electrical capacity of the skin in hypothyroid states rather than by myocardial changes. Use of needle electrodes eliminates this factor, and an undistorted electrocardiogram is obtained according to Nobel and his co-workers.[7]

Since myxedema occurs most frequently in the same decades as advancing myocardial degeneration, one might expect that age would accentuate any specific effect hypothyroidism may exert on the heart. But signs of cardiac failure do not seem to occur more frequently in myxedematous patients than in other individuals in the same age group. In fact, as Christian has pointed out, the supervention of hypothyroidism in patients with valvular and other cardiac disease may exert a beneficial rather than a baneful effect on the preexisting cardiac disability. He cites evidence for the belief that the additional work thrown on the heart by restoring the metabolic rate to normal may overtax the myocardium and lead to decompensation.

The desirability of slow and cautious thyroidization in myxedema heart is stressed by Means, White and Krantz,[8] who report a case similar to Fahr's. Although in seventeen days the metabolic rate was brought from minus 34 to minus 4 per cent, the electrocardiogram became normal and the heart shadow decreased, yet the patient was fatigued, dyspneic, and had a pulse rate of 100. She died suddenly fifteen days later from what the authors think may have been coronary occlusion. They also report a case of myxedema similar to one of Christian's in which anginal pain was induced when the metabolic rate was raised to normal by thyroid.

A markedly myxedematous patient recently treated at the Stanford Medical Clinic developed angina when the metabolic rate was brought to normal, and following this suffered congestive failure.

While it appears that one may occasionally encounter myxedematous patients, with marked congestive failure, who do not respond to rest and digitalis but improve under thyroid, still this gland substance should be administered slowly and under careful supervision. The ability of the heart to meet the demand for the increased blood flow that accompanies the elevation of the metabolic rate should receive consideration whenever thyroid is administered to myxedematous patients.

GOITER HEART OF ROSE

As rare as the "myxedema heart" appears to be, it is probable that the "goiter heart of Rose" is even less frequently seen in this country, where few people will or need suffer from respiratory difficulty caused by an enlarged thyroid pressing on the trachea. It is recognized that the changes in intrathoracic pressure so produced embarrass the heart. The remedy is obvious, and in most cases applied with relative safety.

HYPERTHYROIDISM

The type of cardiac disturbance to be considered here is known also as the "thyrotoxic heart" or "goiter heart" (of Kraus), and occurs chiefly in the various forms of exophthalmic goiter. The characteristic com-

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* Read before the Section on Pharmacology and Therapeutics at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 18, 1927.

1. Zondek, H.: München. med. Wchnschr. **65**: 1180, 1918.
2. Fahr, George: Myxedema Heart, J. A. M. A. **84**: 345 (Jan. 31) 1925.
3. Willius, F. A., and Haines, S. F.: Status of the Heart in Myxedema, Am. Heart J. **1**: 67 (Oct.) 1925.
4. Thacher, C., and White, P. D.: The Electrocardiogram in Myxedema, Am. J. M. Sc. **171**: 61 (Jan.) 1926.
5. Christian, H. A.: The Heart and Its Management in Myxedema, Rhode Island M. J. **8**: 109 (July) 1925.
6. Lueg, W.: Ueber das Elektrokardiogramm des myxödems, Ztschr. f. klin. Med. **104**: 337 (Nov.) 1926.
7. Nobel, E.: Rosenblüth, A., and Samet, W.: Das elektrokardiogramm des kindlichen Myxödems, Ztschr. f. exper. Med. **43**: 332, 1924.
8. Means, J. H.; White, P. D., and Krantz, C. I.: Observations on the Heart in Myxedema, Boston M. & S. J. **195**: 455 (Sept. 2) 1926.

mon to them all is elevated metabolism, which it has become customary to regard as a result of increased thyroid activity. For convenience, the familiar term "hyperthyroidism" will be used to designate these abnormal states marked by an increased metabolic rate, but without reference to their pathogenesis. For the purposes of this discussion small distinction will be made between exophthalmic goiter and so-called toxic adenoma, as it is my belief that, as far as the heart is affected in these two forms of thyroid involvement, the only distinction of importance is one of time, typical exophthalmic goiter being the more acute and less apt to produce permanent cardiovascular disease.

FREQUENCY OF CARDIAC COMPLICATIONS

It has long been recognized that the cardiac complications of hyperthyroidism are of moment. In fact, the avoidance of myocardial involvement is one of the chief therapeutic considerations. But the incidence of cardiac complications is often reported as greater than it actually is. This results chiefly from the assumption that dyspnea, tachycardia and palpitation are evidences of cardiac disease. It is the misinterpretation of these almost constant manifestations of thyrotoxicosis which has popularized the belief that all patients with this form of thyroid disease suffer cardiac impairment.

Tachycardia per se is not a sign of heart failure; in fact, as will presently be shown, the increased pulse rate of hyperthyroidism is, in large part, a physiologic adaptation. Palpitation is a symptom of disturbed sensation and does not bear a direct relationship to heart disease. It is a mark of the heightened nervous irritability so characteristic of thyrotoxicosis and manifest in so many ways. For example, these patients are particularly distressed by the irregular heart action if auricular fibrillation occurs, whereas most other patients with this type of irregularity are oblivious to it.

Dyspnea is not necessarily a sign of impaired cardiac function. In hyperthyroid states it is probably partly a physiologic response, like the increased heart rate, and partly due to the general muscular weakness and inefficiency of the thyrotoxic organism in doing work.[9]

These points are mentioned, not to minimize the importance of cardiac complications but to assist in estimating the extent and frequency of real heart injury. Also, their consideration may assist in avoiding unnecessary therapy, particularly the administration of digitalis, in a vain endeavor to lower the heart rate, control palpitation and prevent dyspnea.

Foster[10] estimates that "over half the cases presenting symptoms have no significant organic lesion" of the heart. Willius and Boothby[11] studied the cardiac complications in thyrotoxic cases treated at the Mayo Clinic, and found that "only one fourth of the patients had auricular fibrillation, and in less than half of these was the fibrillation a constant phenomenon; about one fifth had, as evidence of slight cardiac weakness, a moderate degree of edema of the legs, which disappeared readily under treatment with rest and digitalis."

In a series of 280 office, clinic and hospital patients (106 from the Stanford Medical Clinic), I found seventeen (6 per cent) with permanent auricular fibrillation. Six showed transient fibrillation, but from the nature of this series it is possible that some attacks went unobserved. Twenty-one showed signs of congestive failure, sixteen of these also having fibrillation. In the different series reported the percentage of patients with fibrillation varies from 7 to 15, so it seems probable that in less than 10 per cent of all thyrotoxic cases does the heart go into fibrillation, and in many of these it returns to normal rhythm.

PATHOGENESIS

In order to treat these patients rationally one should ascertain, if possible, just how the heart becomes injured. Two theories of pathogenesis have been advanced, and some evidence has been adduced in support of each.

Toxemia.—This theory presupposes a thyrotoxin which acts directly on the heart muscle and impairs its function. Although this theory is supported by some pathologic and experimental studies, there stands out against these the fact that in the acute type characterized by the severest manifestations suggesting toxemia these is less likelihood of permanent cardiac change than there is in the chronic form with a nodular gland occurring in older patients.

Since nothing is known regarding the chemical constitution of this hypothetic toxin, and since the pathologic picture of the myocardium in patients dying of thyrotoxicosis is so variable, one is forced to rely chiefly on clinical observations for evidence to support this theory.

Cardiac Fatigue.—Here we are on safer ground, for the clinical observations that have led to a belief that myocardial exhaustion is the most important pathogenic factor are quite numerous and well supported by sound theoretical considerations. Furthermore, the manner in which the heart's reserve becomes exhausted seems readily demonstrable. Either or both of two factors may operate to increase the work of the heart muscle.

Thyroid Shunt.—Boas[12] has pointed out that marked dilatation of the thyroid vessels presents a condition resembling arteriovenous aneurysm, which is known to produce compensatory alterations in cardiac function and blood pressure that lead to hypertrophy of the heart.

Rational therapy here consists in reduction of the hyperplasia and its accompanying vasodilatation. The drug indicated is iodine, administered most frequently as compound solution of iodine. This treatment has been demonstrated clinically and pathologically as effective in reducing the hyperplastic gland to a resting state with concomitant decrease in vascularity. Should this fail, it might be advisable to ligate one or more vessels with the hope of decreasing vascularity to that extent and relieving the heart a corresponding amount.

Increased Minute Volume.—Christian,[5] Foster,[10] Sturgis,[13] Boas[12] and others who have written on this subject believe that the added work of augmenting the blood flow to meet the increased oxygen requirement is one of the chief factors leading to cardiac hypertrophy and sometimes failure.

The tachycardia of hyperthyroid states has long been recognized, and that the heart rate increases with elevation of the metabolic rate has been shown by Sturgis

9. Plummer, H. S., and Boothby, W. M.: The Cost of Work in Exophthalmic Goiter, Am. J. Physiol. **63**: 406 (Feb.) 1923.
10. Foster, N. B.: Goiter Heart, Am. J. M. Sc. **169**: 662 (May) 1925.
11. Willius, F. H., and Boothby, W. M.: The Heart in Exophthalmic Goiter and Adenoma with Hyperthyroidism, M. Clin. N. Amer. **7**: 189 (July) 1923.
12. Boas, E. P.: Cardiac Disorders Accompanying Exophthalmic Goiter, J. A. M. A. **80**: 1638 (June 9) 1923.
13. Sturgis, C. C.: The Heart and Its Management in Hyperthyroidism, Rhode Island M. J. **8**: 141 (Sept.) 1925.

and Tompkins,[14] Means,[15] Read[16] and others. Since an increase in heart rate is mainly accomplished by shortening the diastolic rest period, this tachycardia must be a factor in producing cardiac fatigue.

Augmentation of minute volume, however, is accomplished not only by increasing the rate of systole but also by increasing the volume output per beat. This was first shown by Plesch in 1919,[17] and recently Field and Bock[18] have made similar observations. It is probably this increased stroke volume which elevates the pulse pressure and produces the enlargement in cardiac outline so often observed in hyperthyroidism.

The accompanying chart shows the changes in heart rate and blood pressure which accompany varying metabolic rates as determined in 1,000 observations. It is clear from these that the higher metabolic rates are accompanied by an elevated heart rate and by increased systolic and pulse pressure. Regardless of any interpretation as to the cause and significance of these circulatory changes, it is clear that the maintenance of an increased metabolic rate adds to the work the heart is called on to do, and if long continued will exhaust the cardiac reserve and eventuate in myocardial failure.

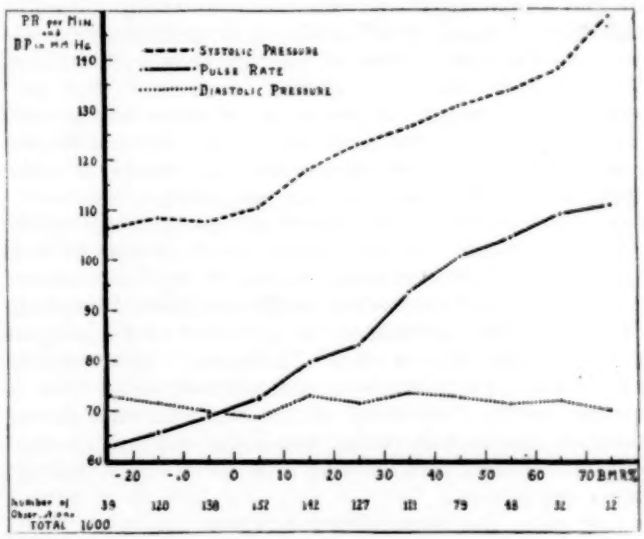
This conception of the pathogenesis of cardiac complications in hyperthyroidism is supported by some well known clinical facts. For example, cardiac failure is a complication which is seldom, if ever, seen in children with exophthalmic goiter, which for purposes of this discussion may be considered acute hyperthyroidism. Adults in whom the heart has become decompensated during the course of typical, acute exophthalmic goiter are less liable to permanent myocardial injury following recovery than are those with long-standing, nodular goiters and increased metabolism. Myocardial failure is observed more frequently in this chronic form of hyperthyroidism, which brings patients to the physician usually after the age of 40, than it is in typical exophthalmic goiter. But in hyperthyroidism in general, age seems to be a larger factor in determining cardiac failure than it is in primary cardiac disease, such as endocarditis. The average age of those with cardiac impairment in this series was 46 years. I believe that the increased work thrown on the heart and the length of time this added load is carried constitute the main etiologic factors of thyrocardiac disease.

THERAPY

It follows naturally from what has been said that reduction of the basal metabolic rate is the therapeutic desideratum if the heart is to be saved from overwork and ultimate depletion of reserve. In short, treatment of the underlying hyperthyroidism is the essential thing, but that does not fall within the scope of this paper. I wish to stress, however, that rest should constitute the sine qua non of whatever measures are employed, thus reducing the cardiac work to a minimum. This point of view lends a rationale to the use of sedatives which some might otherwise be inclined to condemn.

The treatment of myocardial insufficiency occurring in hyperthyroidism does not differ in any way from its treatment when due to other causes, which in general is an attempt to relieve the heart of overstrain and in particular the relief of symptoms, moderate limitation of fluids, tapping of transudates into serous cavities and other established therapeutic measures. While recognizing the inefficacy of digitalis in slowing the regular heart in compensated cases, I still believe that this drug should be administered in decompensation, especially if auricular fibrillation is present.

The therapy of auricular fibrillation occurring in hyperthyroidism calls for especial attention. The patient is much more likely to be cognizant of the irregularity; it is more apt to be transient or paroxysmal in character, and, in my experience, it yields more readily to treatment than when it occurs in primary cardiac disease, as mitral endocarditis. I have observed the restoration to normal rhythm following digitalis as well as quinidine. When this irregularity exists without evidence of congestive failure, I regard quinidine as the drug of choice, its use being safeguarded by the usual precautions. These patients are often so distressed by the irregular and violent heart action that restoration of normal rhythm adds greatly to their comfort.



Increase in pulse rate and blood pressure occurring with elevated metabolic rates; 1,000 observations. Readings are basal, and were taken when the metabolic rate was determined.

Quinidine seems to be of considerable value in treating the cardiac manifestations of hyperthyroidism, and I am of the opinion that the reason for any benefit which seemed to be derived from the well known Forchheimer treatment was due to the cinchona portion of the quinine hydrobromide. I have used quinidine with some success to reduce the heart hurry in patients who were distressed by the rapid and heavy beating of a regular heart when the pulse rate seemed to be out of proportion to the metabolic rate.

I have not mentioned the operative treatment of exophthalmic goiter, though I realize that the success of its outcome is often dependent on the heart. Hamilton has shown that even with decompensation surgery is safe in some cases and may assist to improved cardiac function. But each case must be studied by itself as general rules cannot be postulated, and the cardiac preparation and after-care should follow general lines, with such modifications as were indicated in the foregoing comments on the differences between thyrocardiac disease and other cardiac disabil-

14. Sturgis, C. C., and Tompkins, E. H.: A Study of the Correlation of the Basal Metabolism and Pulse Rate in Patients with Hyperthyroidism, Arch. Int. Med. **26**: 467 (Oct.) 1920.
15. Means, J. H.: Circulatory Disturbances in Diseases of the Glands of Internal Secretion, Endocrinology **9**: 192 (May-June) 1925.
16. Read, J. M.: Basal Pulse Rate and Pulse Pressure Changes Accompanying Variations in the Basal Metabolic Rate, Arch. Int. Med. **34**: 553 (Oct.) 1924.
17. Plesch, J.: Hemodynamische Studien, Ztschr.. f. exper. Path. u. Therap. **6**: 380, 1909.
18. Field, H., Jr.; Bock, A. V.; Gildea, E. F., and Lathrop, F. L.: The Rate of the Circulation in Normal Resting Individuals, J. Clin. Investigation **1**: 65 (Oct.) 1924.

ities. I cannot see any reason for the preoperative digitalization of a patient with normal rhythm; in fact, I regard iodine both in exophthalmic goiter and in nodular chronic goiter with elevated metabolism as a more valuable drug in the preparation for operation. The advent of auricular fibrillation, however, at any time before or after operation calls for the administration of digitalis.

870 Market Street.

THE REHABILITATION OF CARDIAC PATIENTS THROUGH ORGANIZED EFFORT *

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The recognition that diseases of the heart come within the legitimate field of public health activities is of comparatively recent date, but this recognition was followed promptly by efforts to deal with heart disease as a public health problem, and as such to determine what could be done by organized effort toward its prevention and toward the better care of those who already had it. These efforts have been made for a sufficient number of years now to warrant an attempt at some appraisal of what has been accomplished.

In this paper only one aspect of the problem will be considered—that of the rehabilitation of the chronic heart cripple. Have these twelve or fifteen years of groping and experimenting really contributed anything of value to the solution of the problem of the care of this large and difficult class of patients? In attempting to answer this question it will be necessary first to review briefly the history of the heart movement, and then to consider in some detail the more important means that have been developed in the effort to salvage heart cripples.

HISTORICAL SURVEY

The first tentative efforts to apply to diseases of the heart such organized methods of care as have long been applied to pulmonary tuberculosis began some fifteen years ago with the establishment at Bellevue Hospital of a special outpatient class designed to care for convalescent cardiac patients discharged from the wards. Many of these were men of laborious occupation who, experience had shown, were destined soon to return to the hospital ward because of another cardiac breakdown. It was to prevent these repeated breakdowns that the outpatient clinic was opened, in the belief that constant guardianship of the patient while well and at work would do much toward forestalling such periods of decompensation. During the next year an attempt to solve the same problem by a different method led to the opening of a small country convalescent home where laboring men with heart disease could be given prolonged rest and care, and where at the same time they could be taught a trade more in keeping with their much restricted physical capacities. Such a special convalescent home seemed necessary because cardiac patients at that time were not accepted for admission to the few general convalescent homes that then existed.

Two years of experience with this convalescent home and trade school proved conclusively that under such favorable conditions heart cripples could do fairly hard work for the greater part of each day without harm, and often with actual advantage, to their hearts. It served also to convince directors of other convalescent homes that properly selected cardiac patients were entirely suitable for, and could profit by, such convalescent care. Its greatest merit, however, was that it served to focus attention on the whole problem of the control of heart disease, and showed the need for some organization of much more comprehensive character which should deal with every aspect of the problem. It was as a result of this experience that there was organized, in 1915, the New York Association for the Prevention and Relief of Heart Disease, which later adopted the less cumbersome name of the New York Heart Association. Within the next few years associations with similar purposes were organized at Philadelphia, Boston and Chicago, and the increasing interest in the public health aspects of heart disease was shown by the rapid growth of outpatient cardiac clinics in many parts of this country and in Canada.

In order to coordinate and unify all these scattered agencies a national body, the American Heart Association, was incorporated in 1924.

The activities of these various organizations are many and varied, but we are concerned here only with those dealing directly with the rehabilitation of patients with chronic heart disease.

REHABILITATION

In attempting to give an estimate of what has been accomplished for the heart cripple by the various means thus far utilized, it is my purpose to consider in turn each of the several agencies directed to that end which have been found useful and practicable. Only occasionally will it be possible to present positive statistical proof that good has been accomplished. In most cases the benefits derived can only be a matter of inference.

Outpatient Clinics.—The first organized effort directed toward the relief of the chronic heart cripple was the establishment of a special outpatient cardiac class; and now, after sixteen years of experience with various forms of organized care, these special outpatient clinics, if properly equipped, are still the most effective and satisfactory single means at our command for dealing with the problem of relief and rehabilitation. They meet the needs of that class of chronic heart patient for which most can be accomplished—ambulatory patients who, often at least, can be kept in sufficiently good condition to continue to be wage earners; they are relatively inexpensive to maintain, and they require only a limited personnel and modest equipment.

It may be asked why such special cardiac classes are more effective in caring for their patients than are the general medical clinics. While in theory perhaps they ought not to be, the experience of the last fifteen years has shown convincingly that in actual practice they are much more effective.

According to the latest available statistics there are now in active operation 178 such special clinics, of which nine are in Canada and the remaining 169 are distributed among twenty-two of our states. Of these, California has eight, Illinois seventeen, Massachusetts ten, New York fifty-seven, Ohio six, and Pennsylvania thirty-four.

But such cardiac clinics are effective agencies only when properly manned and equipped. Not only must the physicians themselves be trained and experienced in heart work, but they must have the clerical assistance needed to maintain careful records and, what is more important, they must have the services of a trained

* Read before the Section on Pharmacology and Therapeutics at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 18, 1927.

social service worker.[1] Much of the usefulness of such a clinic depends on the intelligence, tact and enthusiasm of this essential member of the staff; for the function of the clinic is not merely to provide treatment at such times as the patient himself feels in need of help. Rather it is the duty of the clinic, through its social service worker, to maintain contact with every patient on the active rolls; to know intimately the social and industrial, as well as the medical, history of each, and to have each report for examination at stated intervals. By such constant oversight and timely advice many a patient, who otherwise would spend a good part of his time in hospital wards because of heart failure, is kept in fairly good health and at steady work. When a break in compensation threatens, a few days of rest in the hospital or in his home, or a fortnight or two in a convalescent home, will often restore the balance and save a long period of serious illness. In the case of children such constant supervision is particularly necessary in order that every throat infection, obscure febrile attack or slight joint inflammation may be recognized early and properly cared for. Education of the patient himself, of his family, and even of his teacher or employer, is a legitimate and necessary part of the duties of the clinic in its effort to forestall periods of serious illness, and most of such educational work falls to the lot of the social service worker.

If the patients are to be encouraged to be regular in their attendance, the hours and days of the clinic sessions must be arranged with due regard for the convenience of its clientele.

Among forty-two approved cardiac clinics in New York City, ten are designed to serve both adults and children; sixteen to serve adults alone, and sixteen, children alone. Eighteen of the clinics for adults hold sessions either in the evening or on Sunday in order to care for workers who cannot well attend the day sessions.

To give some idea of the age of the patients seen in these clinics, and the character and severity of their disease, I quote from the carefully prepared figures of the Committee on Cardiac Clinics of the New York Tuberculosis and Health Association. In 1926, 58 per cent of the patients treated were below the age of 16 years, and 42 per cent were 16 years or over. In the report for the last quarter of 1926, 35 per cent were classified etiologically as belonging to the rheumatic type and 20 per cent to the "undetermined" class. As most if not all of this class are believed to be of rheumatic origin, though lacking in a definite history of rheumatism, it is safe to say that more than 50 per cent of the clinic cases in New York City are of the rheumatic type. The functional capacity of these patients on admission to the clinic was classified as follows: class I, 20 per cent; II A, 37.4 per cent; II B, 15.9 per cent; III, 2.2 per cent; IV, 14.2 per cent, and V, 8.2 per cent.

It is impossible, of course, to measure in any statistical way what has been accomplished by these outpatient clinics toward the rehabilitation of their patients, but some idea of their usefulness may perhaps be gained from the fact that in 1926 in New York City approximately 8,500 patients were carried on the active rolls of these clinics. What this supervision represents in the saving of illness and hospital care and in the increase of working capacity and wage earning power one can only conjecture, but that it must mean much for the welfare of these patients can hardly be doubted.

An interesting variation of the outpatient cardiac clinic is the rural "chest clinics," operated by the Iowa Tuberculosis Association and the Iowa Heart Association acting jointly. Requests from rural communities, coming through the county medical societies, are responded to by the sending of two clinicians, one specially qualified in heart diseases and one in respiratory diseases. To these clinicians the physicians of the neighborhood bring their difficult heart and lung cases, and have the opportunity for a personal consultation with the appropriate specialist. This plan is said to be proving highly successful.

Special School Classes for Cardiac Children.—The problem of the education, in public schools, of children with heart disease has been the subject of an extensive and thorough study in New York City, which was carried on over a period of seven years.[2] I shall review briefly some of the results of that mass experiment. The investigation was made on public school children by a committee of the New York Heart Association, under the chairmanship of Dr. R. H. Halsey and with the help of various outpatient cardiac clinics. It had the cooperation and assistance of the board of education, the department of health, and the Cardiac Committee of the Public Education Association, as well as of various welfare organizations. It was found, on careful investigation, that the incidence of organic heart disease among children of school age was considerably less than had been supposed and amounted to only 0.7 per cent. The functional capacity tests showed these cardiopathic children to be grouped as follows: class I, 55 per cent; II A, 37; II B, 7, and III, 1 per cent.

Several hundred cardiac children were segregated in small, special classes, with strict medical and nursing supervision and under extremely favorable conditions, and their progress, both physical and mental, was compared with that of other cardiac children who were atttending the regular school classes and with that of normal children. Under these exceptionally favorable conditions it was found that there was a great gain in regularity of attendance, in the rate of scholastic progress and in the freedom from serious illness. These important gains, however, seemed to be due rather to the close medical and nursing supervision maintained than to the segregation per se. As the expense of maintaining such special classes was found to be great, the committee carrying on the study finally reached the conclusion that the provision of such special classes for cardiopathic children was unnecessary, provided the equivalent amount of medical and nursing supervision could be furnished these children while they were attending the regular school classes or the classes for other types of handicapped children. It should be added, however, that the progress made by the children in these special classes has so impressed certain of the officials of the board of education that they have recommended that such classes be continued, and be extended to include all cardiopathic children of suitable type.

Convalescent Homes and Sanatoriums.—The form of organized care which thus far has ranked next in effectiveness to the outpatient cardiac clinic is that of treatment in country convalescent homes and sanatoriums. This is entirely a development of recent years, for up to the time of the opening of the Burke Con-

1. Wyckoff, John: The Organization of the Cardiac Clinic, New York State J. Med. **25**: 995 (Nov. 11) 1925. Requirements for an Ideal Cardiac Clinic, by the Committee on Cardiac Clinics of the New York Tuberculosis and Health Association, issued by the American Heart Association, 370 Seventh Avenue, New York.

2. Special Report on Cardiac Classes, published by the Board of Education, New York.

valescent Home near New York City (1915), cardiac patients were looked on as altogether unsuitable for such convalescent care, and as undesirable and unsafe members of such an institution. The demonstration, by the cardiac convalescent home and trade school at Sharon, Conn., that properly selected cardiac patients could not only profit by convalescent care but could at the same time, and with safety and advantage, do physical work for a good part of each day, was accepted by the clear-visioned medical director of the Burke Home as evidence that cardiac patients deserved and could profit by convalescent home care; and the opening of the doors of that institution to cardiac cripples has led to an almost complete removal of the ban against such patients in similar institutions throughout the country. Happily, there is today general recognition that heart patients, if properly selected, profit by and repay convalescent home treatment quite as much as, or even more than, do other types of patients.

The requirements of such cardiac patients, as might be expected, differ somewhat from those of other convalescents. They need a longer stay, graduated exercises, more supervision and often vocational guidance. Many of them also require much encouragement and reassurance to overcome ingrained fears concerning their ability to take exercise and do physical work.

The type of convalescent care suitable for heart patients varies, of course, with the age of the patient and the degree of his functional capacity. In the general convalescent homes for adults, such as that of the Burke Foundation, only the patients with mild and moderate grades of heart injury (classes I and II A) are accepted, and their management differs little from that of the other types of convalescents, the length of stay being usually not more than four or five weeks. In the case of special convalescent homes for cardiac children, the patients are often more seriously affected, many of them belonging to class II B, and the period of residence is usually much longer. Among five such special homes for children with heart disease, near New York City, the average length of stay was four months.

From the latest figures compiled by the American Heart Association, it appears that there are at the present time in the United States thirty-five convelescent homes which accept heart patients. Of these, eleven are special homes for children with heart disease (three in Illinois, one in Missouri, six in New York, and one in Pennsylvania), while the remaining twenty-four are general convalescent homes which receive a certain number of cardiac patients. Of the latter, four are in Massachusetts; three in Missouri; six in New York; six in Pennsylvania, and one each in Connecticut, Maryland, Michigan, New Jersey and Texas. Fortunately, there are everywhere signs of a rapidly growing appreciation of the value of country convalescent homes in the care of the sick and ailing, and we may confidently expect to see a rapid gain in their number and size.

As far as New York City is concerned, it has been estimated that the present convalescent home needs of the cardiac patients would be completely satisfied if there were available for such patients throughout the year from 400 to 450 convalescent beds, and if such beds could be distributed properly to the two sexes and among the different age groups. As the matter stands at present, there are available about 255 full-time beds, of which about eighty are for adults and 175 for children up to 16 years of age. Unfortunately, most of the latter are reserved for girls.

As to just what has been accomplished by these convalescent homes for the heart patients of New York City, it can be said that during the twelve years of its existence the Burke Convalescent Home has cared for approximately 12,000 cardiac patients,[3] and that Irvington House (formerly the Mineola Home for Cardiac Children), during the four years up to January, 1926, received and treated 955 children with heart disease.[4]

As a sign of the times it is interesting to note that tuberculosis sanatoriums are beginning to open their doors to a few cardiac patients. The Reisterstown, Md., Tuberculosis Hospital, the Broadhurst Tuberculosis Sanatorium at Des Moines, Iowa, and the Mount McGregor Sanatorium of the Metropolitan Life Insurance Company have each decided to accept a small number of chronic cardiac patients. The Preventorium Committee, representing the tuberculosis preventoriums of the country, has recently recommended that cardiac patients of classes I, II A, IV, and V be received in such preventoriums.

In this connection should be mentioned also the fact that summer camps and fresh air homes have begun to remove their ban on the admission of children with heart disease, and a number of these now receive children with mild forms of valvular disease on certification that the child is able to live the normal life of the camp.

Trade Schools and Vocational Guidance.—One of the results of the growing interest in the welfare of the cardiac patient has been the effort to find opportunities for the vocational training of boys and girls who, because of their cardiac handicaps, cannot hope to undertake the more active forms of work or have been refused working papers. For some years past, in New York City, a committee of the Public Education Association (the Cardiac Vocational Guidance Committee) has been engaged with the problem of vocational guidance for children with heart disease, and as a result of its efforts a trade school for cardiac girls was opened in 1923 as an annex to the Manhattan Trade School, and in 1924 one for boys as an annex to the Murray Hill Vocational School for Boys. The children have the services of a vocational counselor and a trained nurse, and are kept under close medical supervision. Courses in mechanical drawing, architectural drawing, jewelry case making and leather tooling are available for boys, and in dressmaking and millinery for girls. During 1925 instruction was given to 104 girls and to ninety-three boys.[5] The children selected are now almost entirely those whose functional capacity rating falls within classes I and II A. Children with severer degrees of disability (class II B) have sometimes done very well while under close supervision in the school, but have rarely been able to continue at work after leaving the school.

Most of the children while they are in school gain in weight, strength and color, and often show an increase in their level of vital capacity. What is more, they gain greatly in morale. The more difficult part of the problem seems to be to have them maintain these gains after they leave the school and lose the safeguards of constant supervision and control. It is obvious that the permanent value of this vocational training will depend in large measure on the ability of the schools to maintain medical supervision of the

3. Brush, Frederic: Personal communication to the author.
4. Report of Irvington House, Irvington-on-Hudson, N. Y., 1926.
5. Report of the Cardiac Vocational Guidance Committee of the Public Education Association, 122 East Twenty-Fifth Street, New York.

graduate workers through the cardiac clinics and other follow-up agencies.[6]

The Cardiac Vocational Guidance Committee, since 1920, has been occupied also in studying the problem of vocational guidance for cardiopathic children; confining its attention, however, only to those whose functional capacity ratings fall within the classes I and II A. In 1925, 1,393 such children were referred to the committee for assistance. Each of the applicants is put through a standardized procedure which includes a thorough medical examination at an approved outpatient cardiac clinic, with periodic reexaminations; personal interviews with a vocational counselor; conferences with the parents; an investigation of the school record, and a psychologic test. When all the available information has been collected concerning the child's physical, mental and educational capabilities, the counselor confers with the child and its parents, discusses the courses of study and training available, and advises as to the plan of future schooling along either vocational or general lines.

Employment Bureaus for the Handicapped.—These agencies for those with physical disabilities of various sorts have become a well recognized form of organized aid in a number of the larger cities, and the cardiac cripple constitutes a fairly important fraction of the total number of such handicapped seekers of employment.

In New York City such an employment bureau has been in active operation for a number of years as a branch of the Hospital Social Service Association. Through the courtesy of the diretcor, Mrs. Ida M. Duggan, I am able to give some details concerning the results of her efforts to place cardiac cripples in suitable employment.[7] The difficulties inherent in the problem of finding satisfactory and permanent employment for chronic heart patients have been found to center much more around the peculiarities of temperament in such applicants than in the matter of securing suitable employment. In other words, it has been found much easier to secure such positions than to induce the applicants to hold them. In this respect the problem seems more difficult than in the case of other types of handicap. The mere knowledge that they are the victims of heart disease seems, in many individuals, to develop a condition of self-compassion mingled with apprehension, which leads to ready discouragement, lack of perseverance and deterioration of moral fiber. This moral crippling has proved often a more serious handicap than the physical disability. Nevertheless, the experience of eight years has shown that in a certain proportion of the applicants results that are highly satisfactory and encouraging can be obtained.

During the last eight years this employment bureau has secured placements for an average of 250 cardiac cripples a year. While in a good many instances this employment, for one reason or another, has not been permanent, in many others the record has been surprisingly good. Some patients have kept at work for as long as seven years without loss of functional capacity. Indeed, in a number of instances, class II B patients under the stimulus of regular work, regular wages and regular clinic supervision, have actually advanced into the II A class.

6. Gager, L. T.: On Vocational Training for the Cardiac Child, Am. Heart J. 1: 707, 1926.

7. Duggan, Ida M.: Employment for the Handicapped: II. The Cardiac, Hosp. Social Service Quart. 2: 227, 1920. Sheppard, Mrs. J. S.: Placing Cardiac Patients in Regular Industries, J. Indust. Hyg. 5: 189 (Oct.) 1923.

Permanent Hospital Care.—The subject of providing separate institutions for the custodial care of the large number of cardiac patients with permanent heart failure who cannot properly be cared for in their homes is a large and many-sided one into which I shall not attempt to go. It is one, however, in which the general hospitals have a deep interest, for a considerable proportion of the beds in the medical wards of every such hospital are constantly occupied by patients of this sort, to the detriment of patients with more acute and more remediable types of disease.

COMMENT

I have reviewed, albeit somewhat briefly and inadequately, the means which thus far have been developed and employed in the organized attempt to salvage the chronic heart patient. Although most of the agencies have their sharp limitations and their defects, I trust I have been able to offer evidence sufficient to be convincing that these efforts have been very much worth while, and that by them already the lot of the heart cripple has been ameliorated, and his physical, economic and spiritual welfare fostered.

It has been found, as was to be expected, that the mild and moderately severe cases of rheumatic heart disease, i. e., in patients in the earlier years of life, are those which offer the greatest hope of satisfactory rehabilitation. Patients with the degenerative types of disease seen in the later years of life have in general shown less recuperative power and less ability to profit by treatment.

HEART ORGANIZATIONS

Finally, a word should be said concerning the different types of organization that have been found effective in the fight against heart disease. The outpatient heart clinic may be said to be the unit on which the organization, whether large or small, can best be built. It meets the requirements of the greatest number of patients; it serves the type of patient that can profit most by treatment; it requires only a small personnel and a very limited equipment, and the cost per patient is extremely small. To quote from an article by Dr. Frederic Brush:[8]

> The care of a heart patient, in the hospitals of this city, in the general medical wards, costs about $30 a week; in a convalescent home $12 a week; under the care of a physician and visiting nurse from a special cardiac clinic, or its equivalent, the cost is less than a dollar a week. Treating these handicapped persons in the wrong place is practically misappropriating public and private funds.

As such outpatient clinics multiply in a community, some coordinating body will be found necessary to standardize methods and nomenclature, and to serve as a medium for the exchange of ideas and experience. This may well be a heart committee appointed by the local or the county medical society, an autonomous association of cardiac clinics, or a local heart association of wider scope. Any such cardiac clinic or local association, when approved, may become affiliated with the American Heart Association. It has been found that, whatever the exact form of the local organization, its progress will be more rapid and its future more secure if it has the endorsement and support of such organizations as the county medical society, the board of health, or the board of education.

According to the latest figures of the American Heart Association there are at present in active operation and

8. Brush, Frederic: Provision and Needs for Convalescent Heart Patients in New York, Hospital Social Service 7: 43, 1923.

affiliated with that association the following heart organizations:

Regional Associations.—New England Heart Association (the outgrowth of the Boston Association for the Prevention and Relief of Heart Disease).

State Associations.—Iowa Heart Association; Pennsylvania Heart Association.

Local Heart Associations.—Chicago, Harrisburg, Indianapolis, Philadelphia, San Antonio, St. Louis.

Heart Committees of State, County or Local Medical Societies.—Allegheny County Medical Society, Pittsburgh; Cincinnati Academy of Medicine; Kentucky State Medical Association; Kings County Medical Society, Brooklyn; New York State Medical Association; Wayne County Medical Society, Detroit.

Heart Committees of Health Organizations.—Maine Public Health Association; New York Tuberculosis and Health Association (New York Heart Association); Ohio Public Health Association; Queensboro Tuberculosis and Health Association, New York City; Rochester Tuberculosis and Health Association; Wayne County Tuberculosis and Health Association, Detroit; Yonkers Tuberculosis and Health Association.

One of the most significant developments in the campaign against heart disease has been the recent tendency toward the affiliation of local heart associations with the local tuberculosis associations.[9] This tendency is to be seen in all parts of the country, and the fact that such amalgamations and affiliations are increasing so rapidly bears testimony to the soundness of the principle involved and to the advantages derived by each of the contracting parties. It seems inevitable that this tendency should spread to the larger tuberculosis and heart associations, and that eventually, perhaps, there may be such an amalgamation of the national organizations.

121 East Sixty-Second Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. EYSTER, HATCHER AND WEISS, LEVY AND MACKIE, WHITE, READ AND CONNER

DR. JOHN WYCKOFF, New York: From Dr. Eyster's paper I received the impression that he felt that venous section was usually accompanied by extremely good results in patients with congestive heart failure when there was an increase in the venous pressure. During the last five years, in our service in Bellevue Hospital, it has been our habit to give all patients with congestive failure a week's rest, without medication, except those who were moribund. At the end of such a rest period, a number of the patients have been bled. Little, if any, improvement has ever been noted following such a procedure. On the other hand, if such patients on admission, when they come in directly from the ambulance, from the taxicab or after walking on the street, receive venous section, very frequently they are much better the next morning, but, of course, during that time they have also had rest. In the paper of Drs. Levy and Mackie, a statement was made twice with which I do not agree: that there is a very close margin of safety between the full therapeutic dose of digitalis and the toxic dose, and that this margin of safety is less when the drug is given intravenously than when it is given by mouth. In the first place, I think one has to consider very carefully what one means by full therapeutic action. Digitalis action is sometimes rather difficult to determine and differentiate from digitalis effect. It has been our habit to try to note three distinct points in our observations: the point at which we get the first digitalis effect or action; the point at which we get the maximum optimum digitalis action, and the point at which we get the first toxic action. It is very easy to determine the first beginning action of digitalis, and it is very easy clinically to tell the first toxic action of digitalis. However, I think it is extremely difficult to tell what is the optimum digitalis action. However, in cases of fibrillation, one may make an arbitrary rule which I think is fairly safe. When the ventricular rate has been reduced below 80, I think usually a point has been reached at which one can say the amount of digitalis has been given which is needed for optimum action. That point in the average case is between 33⅓ and 50 per cent below the first mild toxic point. In the case of intravenous medication, that point is approximately the same. Dr. Goldring and I have been carrying on some experiments with ouabain, and we found that the point between this maximum optimum effect and the mild toxic effect is the same.

DR. LOUIS FAUGERES BISHOP, New York: There is one interesting question in the problem of caring for cardiac children, and that is whether in the crippled children movement that is going on throughout the country, and which is so active in New York state, the cardiac cripples are to be included among the crippled children. According to the law governing crippled children in New York state, they are included, but in practice, in organizing camps and so on, they have not been included. I have been the medical member of the committee of the New York Rotary Club, which is building a camp for crippled children on Fire Island, and I am going to try to see if we cannot include a few cardiac cripples in that camp. I am rather curious to know how this matter is being considered in other states.

DR. CARY EGGLESTON, New York: Only within recent years have we acquired any information worthy of the name as to the function of the two branches of the sympathetic nervous system in relation to the heart. A part of this information has been and is yet being accumulated from studies made as a result of an attempt at the operative treatment of angina pectoris. However, the work done by Drs. Hatcher and Weiss seems to me to be even more fundamental in that they are picking out by selective pharmacologic means the numerous multiple paths, and are demonstrating their existence and certain of their functions. They have raised the formerly insignificant and, to many of us, somewhat repulsive phenomena of vomiting to a place of major importance both in the physiologic and in the medical world. It behooves us to pay immeasurably more attention to unearthing the mechanisms responsible for the production of vomiting as we see it at the bedside. It opens up not only fields of diagnosis, but great possibilities for the practice of much more rational therapy. Drs. Levy and Mackie spoke of the use of digitalis by rectal administration in those cases in which they desired to avoid gastric irritation. I call attention to Dr. Hatcher's paper in refutation of the existence of gastric irritation from digitalis. They spoke also of the infusion as being unsatisfactory on account of its instability. This I believe is not the primary reason for its unsatisfactory nature. No two samples of infusion, unless made by one more experienced than the average pharmacist, are of the same potency. I also want to emphasize the fact, as shown by McCullough and Rupe and others, that it is not quite correct merely to state that large doses of digitalis may be given to children with impunity. That is true in the majority of cases, but every once in a while we encounter a child who shows a very definite hypersusceptibility to digitalis exactly as do adults. A figure given for the rate of disappearance of digitalis was 150 mg. in twenty-four hours. I do not think that this figure should go unchallenged. As a matter of fact, the rate of disappearance of digitalis in the adult seems to be extremely variable, and it must be determined by careful observation on each individual patient. Some patients will take two or even three times as much digitalis as this daily and maintain a digitalis balance. I would like finally to emphasize the importance of the features of treatment brought out by Dr. White. In our interest in the study of pharmacologic agents as remedial measures we have tended to overlook the extremely great value of rest, both mental and physical, and of the treatment of the patient, as well as the treatment of the patient's heart condition.

DR. H. S. PLUMMER, Rochester, Minn.: I agree with Dr. Read in making age and the duration of hyperthyroidism

9. The New York Heart Association, in 1925, became the Heart Committee of the New York Tuberculosis and Health Association.

the important factors in cardiac injury, and, further, that rest is the most essential agent in the treatment of the heart injuries in hyperthyroid cases. For many years I looked on increased minute volume flow, that is increased work placed on the heart, as the most essential or almost wholly essential factor in cardiac injury. In recent years I have not felt that the facts would warrant this. I believe that all the tissues in their functioning ability are progressively more and more injured as time passes in the hyperthyroid state; that the heart participates in this harm, and that the injury brought about directly from the action of thyroxin on the heart muscle has a great deal to do with auricular fibrillation. I further feel that thyroxin has somewhat a specific action on the heart muscle in bringing about this effect. Between January, 1924, and January, 1926, operations were performed in 3,205 new cases of exophthalmic goiter in the Mayo Clinic. There were thirty deaths, a fraction of 0.9 per cent. Of these cases only four had shown fibrillation at any time previous to thyroidectomy. In practically all of these cases both lobes of the thyroid were resected. In the four in which there had been fibrillation before the operation, there were three deaths after the operation from specific, definite causes that can be in no way associated with the heart, or with any cardiac disturbance following the operation; not by any stretch of imagination could death be attributed to the fact that these patients had injured hearts. The fourth was the only patient of a group of more than 3,000 who actually had broken compensation and edema before the operation. This patient did not have any cardiac disturbance following the operation. The fifth day after the operation, her husband, who was a physician, was allowed to go home, feeling that she was perfectly safe and that there was no chance of anything happening. On the sixth day, fulminating bronchial pneumonia developed with which there was not any particular cardiac disturbance until a few minutes before death. This patient, out of deference to the physician, was the only one among the 3,000 who was given digitalis at the time of the operation.

DR. JOHN P. ANDERSON, Cleveland: It has been our custom to use digitalis as a matter of routine before goiter operations in every case. We have never noticed any ill effects. There is probably no other condition in which a surgeon is so likely to encounter a fibrillation coming on shortly after the operation or during it. I think the figures that Dr. Plummer quoted are unusual. It seems to me that there are many more cases of fibrillation that develop after operation than I would infer from Dr. Plummer's remarks. If that is so common, then it seems that some fatalities might be aborted by giving the patient digitalis. It is true that giving them digitalis would not stop the development of fibrillation, but if the bundle is already blocked, and fibrillation ensues, the rate will not jump up to 180 or 190 as it very often does. If the patient does develop fibrillation, there is much less shock to the circulatory and nervous system than if they assume those very rapid rates.

DR. JAMES Z. NAURISON, Springfield, Mass.: I would like to ask Dr. Mackie what value, if any, he places on the use of ammonium chloride in edema. It seemed to me that in certain patients with marked edema who have made little or no response to the usual diuretics, ammonium chloride either itself produced active diuresis or in conjunction with a diuretic seemed to do very much better. I would also like to ask Dr. White whether or not he continues any longer than usual the convalescence of the cardiac patients following major operations. Two or three years ago I saw several patients who had excellent compensation after an appendectomy, but after they had been discharged from the hospital, complete cardiac failure resulted. We made it a rule to keep patients with heart disease, regardless of whether they had good compensation or not, in the hospital under convalescent care somewhat longer than usual, and we have had very little trouble since. Dr. Mackie's paper calls to mind a recent paper in the *Boston Medical and Surgical Journal* which showed that quinidine could be given in amounts several times above the 2 Gm. a day that is ordinarily used, apparently with a great degree of safety and apparently, too, with a higher percentage of restored rhythms. I would like to ask Dr. Mackie whether or not he finds any advantage in the production of normal rhythm in his cases of fibrillation, referring only to those patients not in the thyroid group. Fibrillation returns so easily and so frequently that their periods of distress in putting them back under treatment seem altogether too frequent to be an advantage. I wonder whether or not these patients are not as well off, or better off, under digitalis alone.

DR. NORMAN M. KEITH, Rochester, Minn.: I should like to mention the question of treating cases of heart disease combined with massive edema. As you all know, in a certain number of these cases digitalis is not efficacious. Theophylline and other caffeine derivatives have sometimes produced remarkable results. When these were not effective, calcium chloride and acid salts, alone or together with the newer organic mercury compounds, have, in our hands, caused marked diuresis. It is well to recall that in years gone by calomel did produce some remarkable diuretic effects in such cases. In these cases there is marked edema, and often marked signs of cardiac decompensation, such as nocturnal breathlessness, Cheyne-Stokes respiration and auricular fibrillation. We have given such patients an acid salt and organic mercury compounds and have had, in some instances, a marked response and diminution of the edema. The exact mechanism of this action is not altogether understood. In these cases of severe decompensation, the relief of peripheral resistance by diuretics would appear to have a remarkably beneficial effect on the heart muscle with a quick restoration of function.

DR. J. A. E. EYSTER, Madison, Wis.: In regard to Dr. Wyckoff's question, the patients who were the subjects of my report had been in the hospital for some time and had not improved under digitalis and ordinary treatment. Six of the twenty-one were discharged with restoration of compensation. We have now a general rule that venesection shall be done in cardiac patients showing a rise of venous pressure above 20 cm. of water. I think, however, that this is too high, and venesection should be carried out with any abnormal rise of venous pressure. All recent experimental work tends to indicate that the real injury that results to a heart in organic heart disease is the result of stretching the muscle. It is this probably which is the direct cause of the hypertrophy. All of us are familiar with young subjects with multiple valve lesions who have perfectly good compensation and are physically active. The hypertrophic heart undergoes degeneration earlier than the normal heart, however, and it is desirable to prevent as much of this as possible. I cannot help feeling that in a case of decompensation the degree of stretching means a great deal to the person's future. Venesection may not make much difference in the patient's recovery from that particular period of decompensation, but if further injury to the muscle is to be prevented as far as possible, I think that the lowering of the venous pressure under those circumstances may be of the utmost therapeutic value, not so much at the instant but in reducing further injury to the muscle and in postponing the period when degeneration of the muscle leads to fatal decompensation.

DR. THOMAS T. MACKIE, New York: Dr. Eggleston referred to the administration of digitalis by rectum. I gathered that he received the impression that it was given by that route because of the vomiting effect which might be induced by its local action on the gastric mucosa. That is not what was meant. The impression we tried to convey was that the rectal route often is the means of giving digitalis in cases in which there is vomiting, as in recovery from anesthesia or coma, or in cases in which swallowing is impossible because of unconsciousness. As regards the question of the tolerance of children to digitalis dosage, the implication there was not that the children per se had an increased tolerance as compared with adults, but that they had a margin of safety, such that digitalis could be given without regarding accurately the actual body weight of the child. Experience has shown that ammonium chloride is of value in the edema of congestive heart failure. It is most efficacious when given in a dosage such that the acid-base mechanism of the body is decidedly influenced with a shift toward definite acidosis. As regards the utilization of ammonium chloride in combina-

tion with other diuretics, merbaphen has been found to be most efficacious in combination with it. The maximum effect is obtained by producing a moderate acidosis with ammonium chloride or ammonium nitrate. Merbaphen is then administered intramusculary. When quinidine therapy is to be used, the following schedule has been found to be the safest and the most effective method of administration: On the initial day two doses of 0.2 Gm. are given at two hour intervals to test for idiosyncracy; on the second day this is increased to three doses of 0.4 Gm.; on the third day to four doses of 0.4 Gm., and on the fourth and subsequent days to five doses of 0.4 Gm. After restoration of the normal rhythm, the dosage is dropped again to 0.2 Gm., given two or three times a day, over a prolonged period. This does not seem to be associated with any toxic sequelae. The question was raised as to the advantage of stopping fibrillation. I think it was fairly well brought out that only certain cases are suitable for this type of therapy, and that there must be careful scrutiny before this treatment is attempted in order to avoid untoward results. Among untoward results should be included also the symptomatic aspect of the case. If an individual is relatively free from disagreeable symptoms when fibrillation is present and if the heart is well compensated, there is no necessity and probably little indication for an attempt to restore normal rhythm by quinidine.

DR. J. MARION READ, San Francisco: I have often thought, as Dr. Plummer has, of the peculiar aspects of fibrillation when it occurs in hyperthyroidism. There is no other condition with which we deal that is analogous to hyperthyroidism. Exercise more nearly resembles it, but it is impossible to keep up exercise continuously, and make the heart work as it must in maintaining a high metabolic rate over a period of months or even years. Just what that does to the heart is difficult to say. As Dr. Eyster pointed out, stretching of the muscle is undoubtedly a factor in the production of injury, and I believe that these patients have that to some extent. The inrease in heart size that is noted is only partially due to hypertrophy of the heart, and in part to the increased blood volume at each systole. The heart is putting out more blood, because it receives more from the wide open peripheral circulation. Whether there is a toxic action on the cardiac muscle fibers, it is difficult to say. There is some experimental work indicating myocardial necrosis, but the relative infrequency of such observations in patients dying of hyperthyroidism would make one think that toxemia is not a big factor. I tried to make myself clear regarding the effect of digitalis. I do not believe that it should be given to patients who are to have a thyroidectomy unless they have fibrillation or are in a state of decompensation. I look on digitalis as having a certain toxic action and see no reason for adding that load to a heart which is already laboring under increased load, unless there are some definite, specific indications. As I mentioned, these patients frequently, although suffering from decompensation, stand operation pretty well, and the heart, after being relieved of carrying the increased minute volume, often compensates. This is another factor that leads me to believe there is not very much actual injury to the heart muscle. It suggests that the signs of decompensation are manifestations of fatigue.

DR. LEWIS A. CONNER, New York: Although I did not hear all of the papers, I am tempted to say a word about what seems to me to be a very prevalent misunderstanding regarding the recognition of digitalis poisoning. Perhaps this misunderstanding is less widespread than I think, but I am constantly encountering it. The distinction is not made as sharply as it should that auricular fibrillation is a condition in which digitalis is much more effective, but also one which furnishes a very reliable and unmistakable guide to the amount of digitalis to be given. Except in rare instances, the rate of the ventricular beat in auricular fibrillation is a perfectly good guide to the use of digitalis; but when the heart rhythm is regular, that rule does not apply at all. There is often no slowing at all, even under toxic doses of digitalis. It needs to be much more generally understood that when digitalis is being given to a patient whose heart is beating regularly, as in pneumonia, for example, or any other condition in which the beat is regular, one cannot rely on a slowing of the rate as a guide in the use of the digitalis and in avoiding its toxic effects. As for digitalis in hyperthyroid cases, I agree that there is little justification for its use when the sinus rhythm is normal. If there is auricular fibrillation, however, and if the digitalis in such hyperthyroid cases will slow the ventricular rate, as it does in other types of fibrillation, then I think one might ask himself whether the patient with fibrillation is not perhaps better off than the patient with the regular rhythm; because there the heart rate can usually be maintained at a much slower rate than if the rhythm were normal. The harm in fibrillation usually occurs because the rate becomes so very rapid and the beats so ineffective; but if the rate can be controlled, as it usually can, by digitalis, then many patients with auricular fibrillation can get along just about as well as if they had a normal, sinus rhythm.

SURVEY OF THE ACTUAL VALUE OF HYDROTHERAPY *

GUY HINSDALE, M.D.
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Much of the effect of hydrologic measures is due to the stimulus of temperature and hydrostatic pressure on the cutaneous nerve endings. The stimulus of light when employed in the cabinet bath is likewise important. In all these cases impulses are set up which travel by way of afferent nerves to the lower nerve centers and in some cases to the higher nerve centers, such as the brain. The vagus and sympathetic nerves control the caliber of the cutaneous arterioles and produce secondary changes of an opposite character in the viscera. Metabolic action is altered, cold, as a rule, producing an increased elimination of carbon dioxide, whereas heat reduces the carbon dioxide elimination. This was shown by many, including Landis, Long, Jackson and Meyer at the University of Pennsylvania, and by Bazett in an elaborate study of the effects of baths on man.

THE OBJECT OF HYDROTHERAPEUTIC METHODS

It may be desirable to apply a stimulus or, on the other hand, a sedative. Both these may be attained by using some form of hydrotherapy.

A good deal of misunderstanding concerns the word "stimulus." If an increased or quickened action or activity is meant, then probably the primary action of either hot or cold water is stimulant. In the sense in which physiologists use the term, a stimulus may be positive or negative; it is merely an action which produces a reaction. Water, by reason of its temperature or the force or method by which it is applied, is a convenient and efficient physiologic stimulant. The response may be positive or negative. The primary effect may be decidedly stimulating in the proper sense, and the secondary effect may be quite sedative, even depressive.

The reaction of the body, exposed as a whole or in part to water more or less divergent in temperature to that of the blood, is very complex owing to the heat regulating centers in the brain, so that the stimulus of cold through these remarkable centers actually produces heat to meet the demands of the system due to the losses occurring while cold is applied to the body surface. If it were not for this what would become of a channel swimmer? No one could last an hour, let

* Read before the Section on Pharmacology and Therapeutics at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

alone the twelve to twenty hours, of exposure to water 40 degrees or so below the body heat. Surf bathing is a healthful exercise so far as the reactive power of the body is competent to deal with the stimulus of cold and the force of the waves. The secondary effect of a surf bath, as most of us know, is, after a few hours, delightfully sedative and often conducive to sleep.

Now, in a given case, if we want to produce a stimulating or exciting effect on the circulation of the blood and a tonic effect on the heart and blood vessels, it is possible to do so by using water considerably above or below the temperature of the body surface. An "indifferent" bath is usually understood to range from 94 to 95 F. In that medium one can lie for hours, days, weeks or even months without calling on the inherent heat regulative apparatus to preserve an equilibrium. This is taken advantage of in treating states of mental excitement or depression, and in the form of the so-called continuous bath is commonly employed in hospitals for the insane. No well equipped institution of this kind is today without this valuable adjunct to treatment. Such hospitals as the U. S. Government Hospital for the Insane, the Pennsylvania Hospital, that at Waverley, Mass., and many others have been quick to recognize its value, and I wish I could give here the details of carrying out this useful measure. The duration of the bath is from eight to ten hours a day, and the most refractory patient, as a rule, soon learns to enjoy its comfort. This has been a real advance in the treatment of the insane.[1]

Another stimulus in world-wide use in the treatment of typhoid is the Brand bath and its modifications, such as spraying and sponging with cold water and the accompanying vigorous rubbing. Those of us who can look back thirty or forty years know its value in stimulating the nervous system and thus fortifying the patient to conquer the infection. The modern graduate will hardly know what the Brand bath is, at least in this country; but he should be taught the great value of this measure or the modifications in appropriate cases.

The use of cold applications in pneumonia has had some ardent advocates; but, if I am not mistaken, there is, especially in dealing with bronchial pneumonia, a gradual reversion to the more comfortable measures, such as warm moist compresses and jackets of wool, with stimulating applications. In lobar pneumonia cold air is still looked on favorably, but even placing the patient's bed in the open air in roof wards, to use an incongruous expression, seems to be going out.

Another example of the tonic character of cool applications, or minus applications as they are sometimes called, is the carbonated or Nauheim bath. These baths, as applied at Nauheim, start usually at 92 F. (33 C.). The stimulus of relatively cool water is enhanced by the carbonic acid gas occurring naturally in the supply or artificially generated, as the case may be. Another stimulus present in these baths is due to the chlorides, naturally present or added as required.

These baths have a tonic effect on the heart and blood vessels, and are believed to reduce the size of a dilated heart and thus promote its contractile power.

What is the present status of these baths? Between twenty and thirty years ago carbonated baths were undoubtedly used much more than at present. The Great War checked for a time the popular vogue of the Nauheim Springs as well as others in Germany and Austria-Hungary, except for military purposes. They are coming back to their former popularity. At Nauheim the total number of persons taking treatment in 1926 was 33,296, and the number of baths given to them was 368,010. This was slightly less than in 1924. It is claimed that Nauheim has a capacity for giving 6,000 baths daily.

The artificial preparation of carbonated baths is not difficult but at present is not employed so much in this country, probably on account of the necessity of having competent persons administer them. They cannot be given, or should not be given, in a routine manner but by very careful physicians or unusually skilled attendants. Few physicians are competent to prescribe these baths in detail or to administer them. They take more time and require attention to too many details to be generally employed. There are a few places in the United States where these baths are given under suitable observation, notably at Glen Springs and Saratoga Springs, N. Y., at Galen Hall in Atlantic City, at the

Fig. 1.—Arm and leg whirlpool baths with Bardwell aerators and Leonard thermostatic mixing valve. (Courtesy of J. L. Mott Company.)

Hospital of the University of Pennsylvania, and probably at other places not known to me.[2]

I am informed that during the last year at Saratoga Springs approximately 1,500 "Nauheim" baths were given in a total of 95,000 given in the naturally carbonated waters.

Turning now to applications of warm or hot water, that is to say, water at 6, 8 or 10 degrees or more above the bodily heat, we have great resources, not only in our natural thermal springs but, thanks to the features of modern hydrotherapeutic apparatus, in modern means for applying water accurately gaged for temperature, pressure and duration with an admirable precision and with safeguards unknown to the pioneers in medical hydrology.

The modern control table is an indispensable, though expensive, means of providing the various douches so necessary for a large group of patients. Following treatment in a cabinet provided with incandescent lamps or a steam coil to the point of inducing perspiration, the circular or needle douche, the jet douche and possibly the alternating, or Scotch, douche are used. The

1. Ring, A. H.: Hydrotherapy in Mental Disease, M. J. & Record 124: 773 (Dec. 15) 1926.

2. McDill, J. R.: Nauheim Baths for Cardiovascular Degenerations, U. S. Vet. Bur. M. Bull. 2: 669 (July) 1926.

late Dr. Simon Baruch, a pioneer in hydrotherapy, insisted on the great value of what he termed "neurovascular training." This seeks to bring about, in a body prepared by the heating process in the cabinet, a response by means of the succession of douches of varying temperature and force. It is an exercise of the blood vessels, comparable to the exercise of the muscles. The heat of the cabinet, ranging from 140 to 165 F., dilates the blood vessels in the skin and withdraws the blood to some extent from the internal organs to the surface. The subsequent contraction and dilatation as the colder douches are applied, and especially as the alternating hot and cold douche strikes the spine and the limbs, encourages an active response in the venous and arterial network in the skin, and provides a more rapid change in the blood supplying the interior organs and large nerve centers. This response may be moderate early in the course of treatment but grows with repetition and brings about a corresponding

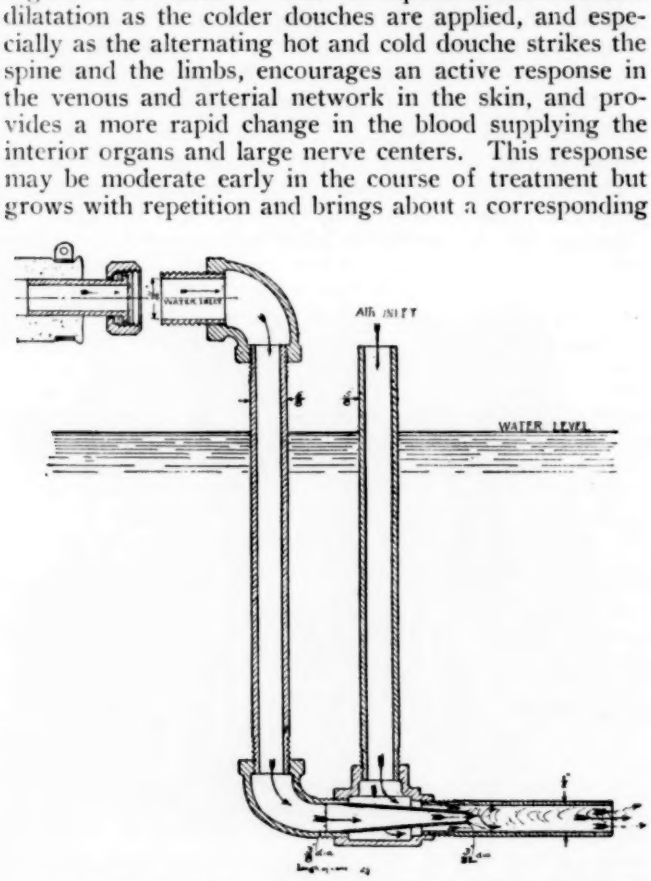

Fig. 2.—Plan of aerator designed by Dr. Bardwell of the Veterans' Bureau. Air is sucked down and mixed with the heated water controlled by the mixing valve. (Courtesy of W. B. Saunders Company.)

improvement in nutrition and a sense of well being much appreciated by the average patient. It has been called an educational bath because it brings out and develops latent powers.

A good example of the hyperthermal bath and one that produces a distinct stimulus is the whirlpool bath. This is one of the later devices in hydrotherapy and originated in France, where it is known as "les bains de l'eau courante." During the recent war it was improved by Dr. Fortescue Fox of London, and it was still further improved by surgeons at the Walter Reed Hospital, Washington, D. C., and by Dr. Bardwell of the Veterans' Bureau, Oteen, N. C. It is a local bath with reservoirs for either the arm or the leg, and arrangements for mixing the hot and cold water so as to provide proper temperatures. These range in practice between 104 and 120 F. (40 and 49 C.). Air under pressure is introduced below the surface of the filled bath, which is then given a swirling motion as water mixed with air is forced out by the aerator, which is the essential part of the apparatus. The duration of the bath varies from five to forty-five minutes and it may be repeated daily. These baths are therefore classed as local, hyperthermal baths, and they have a wide range of application.

Space will not permit me to go into the manifold uses of the whirlpool bath, but I may quote this statement by Major Offutt of the Walter Reed Hospital:

We find the whirlpool bath extremely beneficial for orthopedic cases in general. We consider it the best type of heat for stiff joints such as we get in fracture cases. We do not use the whirlpool for arthritis or any nerve involvements, for we have found that in these cases the symptoms were aggravated by its use.

We usually start the whirlpool bath at the temperature of the patient's tolerance and increase up to his endurance for a period of fifteen minutes.

Captain Bardwell now at the Veterans' Bureau Hospital at Oteen, N. C., and formerly of the U. S. Army post at Fort Snelling and of the Walter Reed Hospital, prefers the whirlpool bath to the baker. He has had success in treating fractures and sprains, and in treating flatfoot and chilblains. It stimulates the circulation and prepares the part in a very short time for massage, diathermy or resistant movements.

The expense of the apparatus runs into hundreds of dollars, and to avoid this Dr. Norman E. Titus[3] of New York has devised a portable whirlpool bath which he described recently. It is nothing more nor less than an electric washing machine capable of ejecting 300 cubic feet of water a minute. This machine is attached to an ordinary washboiler which has a spigot at the bottom so as to empty the water easily when used. When filled, the washboiler weighs about 100 pounds (45.5 Kg.). Of course it has not the finer qualities of the apparatus made by Mott.

The actual therapeutic value of these measures was assessed by Anders[4] in 1924. Among acute diseases he laid great stress on the value of hydrotherapy in typhoid, influenza, pneumonia and tonsillitis. Among chronic diseases he instanced chronic tuberculosis, neurasthenia, rheumatism and gout, valvular and myocardial heart disease, obesity and chronic nephritis. Appropriate measures were mentioned, and a reasonable estimate of the value of hydrotherapy in these various conditions is given. Nothing, however, was said about the important class of the insane, and also the use of hydrotherapeutic measures in acute infections of a surgical nature. Naturally, one has to speak more or less within one's own field of work.

I have mentioned the continuous bath, and that is an unquestioned help in treating the insane; the same may be said for the blanket pack, wet or dry.

I have visited a good many hospitals for the insane where hydrotherapy is employed, and in no place that I am acquainted with is hydrotherapy used more than in the U. S. Government Hospital for the Insane, Washington, D. C. The original plant was installed thirty years ago, and has been enlarged as the immense service of this hospital has required. I think this one fact alone proves the great value of the treatment, as no treatment whatever would be carried out for thirty years altogether among the insane unless it had great merit.

Dr. William A. White, March 17, wrote me as follows:

During the past twenty years we have at various times installed a number of continuous bathtubs in the departments of the hospital.

3. Titus, N. E.: Physical Therap. **44**: 589 (Nov.) 1926.
4. Anders, J. M.: The Indications for and Methods of Employing Hydrotherapy, J. A. M. A. **83**: 246 (July 26) 1924.

All baths are employed for their sedative, eliminative and tonic effects. By use of hydrotherapy we are able to dispense with chemical and mechanical restraint. Continuous baths are used daily throughout the hospital. Other hydriatric methods employed here in the treatment of patients are packs, shower, needle spray, sitz baths and hot air baths. While the cold, tepid and hot packs are administered in the hydrotherapy units of the hospital, they are also administered by trained attendants throughout the wards, to quiet disturbed patients at any time during the twenty-four hours of the day.

We feel that this method of treatment is of high therapeutic value, and our records show that upwards of 10,000 treatments are given in one month in the hospital, and in the course of a year more than 100,000 treatments are given.

We believe that hydrotherapy as a therapeutic agent is of great value in mental hospitals for treating psychotic symptoms, especially in cases of excitements and depressions.

Dr. White's associate, Dr. L. D. Hubbard, agrees in saying that there is no treatment which surpasses the continuous bath for insane patients. It is a remedy *par excellence;* but as it requires many tubs and an

Fig. 3.—Leg bath in operation. A thermometer in the mixing valve shows the temperature. The position of the aerator may be altered by moving screw at 1. (Courtesy of W. B. Saunders Company.)

assistant in charge of every one or two patients, comparatively few can get the benefit of the treatment, which lasts several hours. Hence it is that packs are more frequently prescribed.

OBESITY

Hydrotherapy is used for the reduction of weight with more or less success in connection with systematic exercise and dieting. In itself it is not sufficient.

There is a type of the overfat high living man who has eaten and drunk without very serious effects, and who periodically takes some form of reduction cure in order to keep his weight down and, incidentally, enjoy life once more in his accustomed way. Patients of this type are likely to have dilated stomachs and sluggish livers. They probably have learned to use laxative mineral waters or salts, and in that way obviate any serious illness.

Besides a dilated stomach, careful examination will sometimes reveal a dilated or fatty heart, a slightly dusky look, yellowish conjunctiva, a quick pulse and a tendency to dyspnea. Hydrotherapeutic measures should therefore be carefully instituted and, if possible, the patient should be seen shortly after his first bath.

The visitors at spas generally include cases of this kind, and they demand suitable treatment. It should be based always on individual requirements and capabilities. Most of these subjects are in middle life, are of sedentary habit, and have consequent muscular weakness. The heart should be observed at the start and all through the course of treatment. If baths are ordered, a daily record should be kept of the weight and also of the heart action. From time to time the blood pressure should be recorded. Few go to hospitals for the reduction of weight, but many go to spas. The further they go and the more sacrifices they make to undergo the cure, the more conscientious they are in adhering to discipline.

Hydrologic measures are not sufficient in the reduction of weight unless associated with a regimen including diet and exercise. The combination of measures properly balanced will in most cases accomplish good results, as all practitioners at mineral water spas will know. The visitors at such resorts include a notable proportion of these cases and they demand suitable treatment. Experience proves that a regimen should not be entered into lightly or inadvisedly but carefully and with due respect to individual requirements and capabilities. I believe that hot water bathing yields better results than cabinet baths, cold baths or sea bathing. The latter more surely stimulate the appetite, and there is not the same degree of loss through perspiration. After hot full baths followed by hot blanket packs applied to the entire body there is often a loss of 1, 2 or even 3 pounds as determined by careful weighing before and after treatment. Some of this loss is replaced inside of twenty-four hours, but there is a gradual downward tendency in the weight curve that encourages the patient to persevere. At the end of three or four weeks 10 or 12 pounds (4.5 or 5.4 Kg.) may be safely lost in persons weighing in the neighborhood of 200 pounds (90 Kg.).

Space does not allow me to take up the other measures, such as douches, packs, fomentations, and compresses. Nor will it be possible to consider the benefits to be derived from balneology or the use of mineral springs. This is a separate field.

SUMMARY

Water may act as a powerful stimulus according to its temperature. The indifferent bath, or continuous bath, is useful in treating excited mental states. The Brand bath and its modifications are most valuable in typhoid. Nauheim baths, cabinet baths and douches, and whirlpool baths are valuable in circulatory disorders.

Obesity is favorably influenced by hot water bathing and subsequent general hot dry packs. This treatment should be associated with appropiate diet, and is best carried out at spas.

CONCLUSION

I do not know of a better way to emphasize the extensive use made of hydrotherapy than by quoting the letter written last month by Mr. Winthrop Adams, acting director of the U. S. Veterans' Bureau, in reply to my request for information. He says:

> Hydrotherapy is an important part of physiotherapy as carried on by the Veterans' Bureau in its hospitals and dispensaries. Eight dispensaries and thirty neuropsychiatric and general hospitals under the jurisdiction of this bureau have well equipped hydrotherapy departments. The usual installation consists of a douche table with thermostatic control,

needle shower bath, tub for continuous baths; also in general hospitals and dispensaries, whirlpool arm and leg baths and in neuropsychiatric hospitals additional continuous flow tubs and facilities for giving hot and cold packs. In some cases the sitz bath is added.

The tuberculosis hospitals, as a rule, have a very small equipment for hydrotherapy, as it is not considered that this form of treatment is especially indicated with the majority of those patients. Trained technicians are assigned to the hospitals and dispensaries to give these treatments on prescription from the medical officers in charge of the cases.

Statistics from the last annual report of this bureau indicate that, during the fiscal year 1926, 8,632 hydrotherapy treatments were given in tuberculosis hospitals, 309,939 in neuropsychiatric hospitals, 87,498 in general hospitals and 39,430 in dispensaries, with a total of 445,499 treatments.

It may be of interest to note that 27 per cent of the physical herapy treatments in neuropsychiatric hospitals consisted of hydrotherapy, while in the dispensaries and hospitals for tuberculosis and general cases, less than 9 per cent of such treatments consisted of hydrotherapy. This is indicative of the benefits which are obtained from this form of treatment for psychoneurotic and psychotic cases.

Mr. Adams also enclosed a copy of a suggested outline of a lecture on hydrotherapy which was distributed to the hospitals and dispensaries to provide a basis for a lecture to be prepared by one of the medical officers for delivery at the station.

ABSTRACT OF DISCUSSION

DR. JAMES M. ANDERS, Philadelphia: I am in full accord with the views expressed by Dr. Hinsdale on the objects of hydrotherapeutic methods. The profession, as a whole, has shown far too little interest in hydrotherapeutic measures. Indeed, there has been clearly observable a return from a time some thirty years ago, when the Brand baths and their modifications were duly appreciated, to more convenient methods of applying heat and cold, such as woolen jackets, the ice bag and local stimulation. The latter forms of treatment do not increase resistance to infection. On the other hand, the application of cold water does raise bodily resistance by stimulating the nerve centers and the cardiovascular system, thus helping nature to overcome the acute infections, such as typhoid. In the case of pneumonia, however, Brand baths are not to be thought of because the necessary handling of the patients in connection with their administration is too exhausting. On the other hand, sponging of the anterior portion and the sides of the chest, as well as the extremities, with a bath mitten wrung out of water at a temperature of 80 degrees, to be lowered 2 degrees with each subsequent bath until 70 degrees is arrived at, is serviceable. The use of sponge baths in cases of bronchopneumonia, particularly among children, is useful. Each bath, however, must be followed by gentle toweling so as to bring about a good reaction. I am partial to the cold pack in severe types of bronchopneumonia in young patients; they far surpass any form of drug treatment. As pointed out by Dr. Hinsdale, a prolonged cold bath produces first a stimulating effect, and then, because it makes a notable demand on the heat regulating centers of the brain, is followed by a sedative effect, and, rarely, even exhaustion. I have seen this condition as a result of a too prolonged ocean bath. The most invigorating effect is obtained from an ocean bath of short duration. I would like to refer briefly to the continuous or so-called indifferent bath at a temperature of 94 or 95 degrees, mentioned by Dr. Hinsdale as a means of combating violent nervous excitement and great psychic disturbance in the insane. This continuous or prolonged bath has a much more beneficial effect than any form of drug treatment of which we have knowledge. It is also true that in certain infections physical agents produce better results in their management than any form of drug treatment, and that these may reinforce one another. In the treatment of chronic rheumatism, the combined use of moist heat and manipulation is far better than either of these agents alone.

DR. G. K. ABBOTT, Takoma Park, Md.: Too much cannot be said relative to the importance of the vasomotor element in the perverted physiology of a large number of diseases. The impression prevails that hydrotherapy is of value chiefly in chronic diseases or as a means of rehabilitation from the injuries of war or civil life, and that it can be applied only in an institution. In acute infectious fevers, and in the acute and chronic infections of surgical practice, there lies a field for hydrotherapy which has been but little explored. Hydrotherapy is life-saving in serious pandemic influenza and in influenzal pneumonia. I have used it with satisfaction in acute pelvic infections, such as metritis, cellulitis, salpingitis and pyosalpinx. Many pelvic infections will be entirely cleared up by these measures, and that very rapidly. Such conditions as remain in the line of pyosalpinx or tubo-ovarian adhesions producing pain must of necessity be treated surgically. In ether pneumonia the use of derivative hydrotherapy concluded with a vasomotor tonic causes it to disappear so rapidly as almost never to give us concern. In hyperthyroidism, especially in the exophthalmic goiter type, cold applications are well borne and the reaction is prompt and highly satisfactory. In Raynaud's disease heat alone gives relief. In the extension of lymphangitis from local infections, such as those of the hand, if the entire hand and forearm to above the elbow is immersed alternately in hot and cold water, a large number of such cases will not require surgery at all; others will need only the lancing of abscesses. If treatment is begun early, very few ever come to the point of requiring even the amputation of a finger.

DR. H. D. OFFUTT, Washington, D. C.: At the Walter Reed Hospital we are using four of the leg whirlpool baths and two for the arm. They are not expensive. The post plumber made them out of infant's bathtubs. We are using those more in sprains and fracture cases, with stiff joints following the immobilization. The action of the whirlpool allows us to manipulate the joint to a far greater extent, with a great deal less pain, and we thereby get more motion in the joint and get that motion more rapidly than if we did not use the whirlpool.

DR. GUY HINSDALE, Hot Springs, Va.: Very few medical schools give adequate instruction in the basic principles of hydrotherapy. At the University of Pennsylvania, under Dr. Tate MacKenzie and Dr. Nylin, a course is given which is, I think, quite valuable; but I have inquired in other hospitals and colleges and find instruction lacking. This is really the source of the lack of interest in hydrotherapy as a feature of treatment by the profession. Of course, when it comes to apparatus, there is some difficulty there also. Apparatus of this type is expensive. At the Walter Reed Hospital, in which Dr. Offutt has charge of the physical therapy department, it is in daily use.

The Gregarious Instinct of Man.—The gregarious instinct is one of the human instincts of greatest social importance, for it has played a great part in molding societary forms. The affective aspect of the operation of this instinct is not sufficiently intense or specific to have been given a name. The instinct is displayed by many species of animals, even by some very low in the sale of mental capacity. Its operation in its simplest form implies none of the higher qualities of mind, neither sympathy nor capacity for mutual aid. Mr. Francis Galton has given the classical description of the crude instinct. Describing the South African ox in Damaraland, he says he displays no affection for his fellows, and hardly seems to notice their existence, so long as he is among them; but, if he becomes separated from the herd, he displays an extreme distress that will not let him rest until he succeeds in rejoining it, when he hastens to bury himself in the midst of it, seeking the closest possible contact with the bodies of his fellows. There we see the working of the gregarious instinct in all its simplicity, a mere uneasiness in isolation and satisfaction in being one of a herd. Its utility to animals liable to the attacks of beasts of prey is obvious.—McDougall: Social Psychology, pp. 86-87.

PARANASAL SINUS INFECTION AND SWIMMING*

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Some rhinologists feel that the infections in the upper respiratory tract resulting from swimming are due primarily and directly to the bacteria of the water getting into the nose and the paranasal chambers. The type of bacteria found in diseases of the paranasal sinuses, middle ear and upper respiratory tract has received little consideration. These infections have become so frequent in recent years that almost every family has in one way or another been brought to grief as a result of swimming. This problem reduces itself to one of the important features of public health at the present time, and the burden of the solution is resting on otolaryngologists. Public health officials and sanitarians have made tremendous efforts to make the swimming pools safe for swimmers. Unfortunately, their efforts have not resulted in the desired effect, though through no fault of their own. From the standpoint of otolaryngology the problem has been misinterpreted and hence approached from the wrong angle. I have made certain tests with the hope of determining some of the factors that may be of prime importance.

BACTERIOLOGY

The bacteriology of water in swimming pools has been studied heretofore principally from the standpoint of gastro-enteric infections. Sanitarians promptly saw the advisability of applying to swimming water the standard tests which have been developed for drinking water. These tests and requirements have been quite sufficient for drinking water, but when the water that may be suitable for swimming is considered, it should be remembered that the type of bacteria may be as important as, or even more important than, the total number of bacteria. The type of bacteria found in swimming water is one of the basic factors in the problem. In the summer of 1926 I found that the injecting of water from swimming pools directly into the middle ears of guinea-pigs produced an otitis media of some degree of severity in all pigs so inoculated. Also, by opening the middle ears under strictly aseptic conditions, I recovered, by cultures from these infected ears, several types of pyogenic bacteria; in fact, practically all types of bacteria found in the upper respiratory tract. I have observed that the average severity of these experimental infections varies with the prevailing epidemics of colds in the community. At one time during more or less of an epidemic of gastro-enteric infections, unusually large numbers of *Bacillus coli* were recovered. Some of these organisms stood the test of paratyphoid even in high dilution.

STERILIZATION OF SWIMMING POOLS

For practical purposes, complete sterilization of pools is not considered to be always possible. Comparative sterilization by using different chemical and physical agencies has been zealously attempted. Chlorine, in one form or another, has proved to be one of the most satisfactory chemicals. Filtration and ultraviolet ray treatment are comparatively satisfactory. The water for my experimental work I have taken from pools where one of these methods was employed, and I have been unable to determine any difference in the results of either method. The water in the pool during the time of swimming represents the combined washings, so to speak, of the mucous membrane of the nasal chambers and the mouth of every swimmer. This I have demonstrated in the following test: Sterile powdered charcoal was thrown into the pool and a class of boys ranging in age from 8 to 12 years was allowed to take the usual swimming exercises. Many of the swimmers blew water from their mouths, but none of them expectorated as they interpreted the term. For this purpose they had been taught to use the drain gutter. At the end of the swimming period an inspection of the nasal chambers was made. In every boy particles of charcoal could be found in different parts of the nose with a deposit on one side or another of the middle turbinate. In other words, the water had reached the vulnerable part of the nose. The mucous membrane was shrunken, was more or less bleached, and showed little or no evidence of the normal covering of mucus. This observation, I believe, establishes the fact that water in the majority of swimmers gets well into the nasal chambers, therefore carrying with it the contamination of the pool and at the same time adding to the pool whatever bacteria may be present in the particular swimmer's nose. The infections are likely transmitted from one individual to another during the swimming period before the sterilization process has time to influence the bacterial content materially.

The fact that water reaches the vulnerable portion of the nose in the majority of swimmers establishes several possibilities: (*a*) The water produces a temporary shrinking and bleaching of the mucous membrane adjacent to the ostia of the anterior group of paranasal sinuses. This makes it possible for water to find its way directly into the sinuses, thus implanting the contamination of the pool and transmitting whatever bacteria may be present in the nasal chamber proper to the paranasal sinuses, where in all probability there is not a local resistance to the newly implanted bacteria. (*b*) The second phase of shrinking the mucous membrane is congestion or edema. This would likely obstruct drainage and ventilation from the sinuses that may have become infected as outlined in the foregoing. The situation then would be favorable to the growth and development of the foreign bacteria. (*c*) The mucous membrane opposite septal spurs may be shrunken so as to allow free passage of water and in this way expose the mucous membrane to contamination; and later in the congestive stage the organisms would be happily situated for moisture and warmth. Then to blow the nose vigorously would likely cause the mucus which is now contaminated to be forced into the adjacent cavities. This, I think, is the likely sequence of events in those individuals who have narrow noses, impinging middle turbinates, or obstruction due to septal deformities.

EXPERIMENTAL INFECTIONS

For experimental purposes it would be desirable to produce paranasal sinus infections in ordinary laboratory animals, but one is confronted by a marked dissimilarity of anatomic structures as compared to man. The antrums in the animals are shallow pockets with very large outlets at the dependent part, so that they will not retain liquid. I have attempted to overcome the peculiarity of these cavities by fixing guinea-pigs in an upright position, so that water could not drain from the antrums. Several pigs were placed in this position and water from the swimming pools was dropped into the

* Read before the Section on Laryngology, Otology and Rhinology at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

nose at fifteen minute intervals for two hours. The pigs were then taken down and observed for local and systemic signs and symptoms of infection. Some pigs did not seem to get any local or systemic infection, while others showed a moderate local infection and a few showed systemic involvement.

Two of these are perhaps worthy of mention. Cultures were first made from the nasal chambers with a platinum loop, and sufficient traumatism was done to cause a few drops of blood to appear in the nose. Different writers have considered it possible for inrushing water to produce enough traumatism to favor the development of fulminating infections. These pigs showed little evidence of local infection, but within two or three days definite evidence of systemic involvement was apparent. A control pig that was in the same pen continued to thrive. On the fourth day one pig was found dead. At postmortem examination macroscopic evidence of pathologic changes was not found. The heart blood culture yielded *Bacillus coli* and streptococci. The following day the other pig died. Postmortem observations and cultures were practically identical with the first.

This experiment is not conclusive within itself, but I think it does suggest the possibility of septicemia coming from the original infection in the paranasal sinuses as a result of contamination from swimming water. This is also a possible explanation of some of the very marked systemic reactions that are encountered at times as a result of swimming. It is quite probable that an individual suffering from a virulent infection may contaminate a section of the swimming pool, and that the next swimmer may get an overdose of this infection into his sinuses or mouth, with a resultant marked invasion taking place before nature can build up resistance. In all my experimental work I have found considerable variation in the severity of the infections. It is probable that with many other important possibilities the virulence of the particular type of infection has been the determining factor in these outstanding cases, and one is led to the conclusion that the same possibility doubtless holds true in man.

CLINICAL OBSERVATIONS

1. I have observed that as a group the sinus infections resulting from swimming are often severe in their nature, and that the ethmoids and frontals are frequently involved.

2. Children especially are likely to pick up infections in pools. I have seen a number of boys who got sinus infection from one pool as a result of being required to "duck" their heads. Without an exception every boy recovered in the course of a few weeks after leaving off swimming.

3. Persons who have previously suffered from paranasal sinus infection or nasal obstruction are very likely to develop acute attacks following swimming.

4. The high percentage of frontal and ethmoidal infections is due to virulent foreign bacteria reaching the vulnerable part of the nose, and to a lowered local and systemic resistance. An overdose of foreign bacteria of marked virulence for which the individual does not have previous immunity is a probable explanation that quite likely holds true in children.

MAN'S LACK OF ADAPTABILITY TO AQUATIC LIFE

Man's lack of adaptability to aquatic life is really quite apparent, and, if asked the direct question, perhaps all intelligent persons would frankly state that man does not possess the particular apparatus which would make him capable of behaving in the water in the same way as aquatic animals. Our knowledge, however, does not determine our conduct in this instance, for throughout the length of time man has indulged in swimming either through necessity or for sport or self-exploitation in the accomplishment of aquatic feats. Taylor says, concerning this point:

> I have endeavored to show the modifications which the aquatic animals have for their environment and the striking absence of such adaptations in man. I have noted the means with which nature has endowed the aquatic animals for preventing water from gaining entrance to the respiratory tract, the means they have for maintaining their body temperature in cold water, and the absence of these provisions in man. Man is essentially a terrestrial being, and his anatomy and physiology are not modified for a water environment. When man is out of his normal sphere he must understand what limitations nature has placed on him, and not ignore the fundamental laws that regulate his own well being.

CONCLUSION

The final question is, What shall we as otolaryngologists do to protect our trusting patients? Shall we continue as individuals to warn them against the hazards of swimming, or shall we as a group condemn swimming for those, at least, who are not capable of appreciating the warnings that should be posted about every pool? I dare not alone answer the question for the entire profession.

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ABSTRACT OF DISCUSSION

DR. H. MARSHALL TAYLOR, Jacksonville, Fla.: It is a matter of historical record that the ancients had methods of filtration in 400 B. C., and that the Chinese used alum in their public baths before the Christian era began. Yet, in the last few years, in spite of the wonderful work done by the public health officials in the matter of the sanitation, maintenance and construction of bathing places, it has become very evident that sanitation alone will not solve this important problem of preventive medicine. Nature did not endow the respiratory columnar ciliated epithelium with the power to withstand the vitiating effect of water. Man has not the means of protecting the respiratory epithelium from water as all other air breathing animals leading an aquatic existence have. The protective mechanism of the nose consists mainly of two factors: (1) the secretion of mucus, which is inhibitory to bacterial growth, if not bactericidal, and (2) the power of ciliated epithelium to sweep this mucus in which the bacteria become enmeshed toward the pharynx-esophagus to be disposed of. Anything that interferes with these two functions, whether it is mechanical, chemical or thermal, breaks down nature's barriers and renders the nasal cavity and its appurtenances susceptible to infection. This nasal mucus is washed away during diving, and the nasal mucosa is exposed to the destructive action of water, by the drawing out of saline elements, thus causing edema, acidosis of the cells, loss of ciliary activity and eventual cell death, as described by Fenton. Dr. Hasty's observation on the deposit of charcoal deep in the nasal cavity, after scattering it in the swimming tank, demonstrates that water in a swimming pool does reach the vulnerable part of the nose. This becomes more important when we realize that the wavelike motion of the cilia is impaired or even stopped entirely by the reduction of the temperature of the nasal mucous membrane, and by direct contact with the chemicals which are now being used in modern pools. In addition, there is chilling of the body surfaces, which decreases the motility and phagocytic activity of the leukocytes, thereby lowering the resistance to infections which are already harbored in the upper air passages. Dr. Fenton says that persons with wide open nasal passages, straight septums and normal turbinates should not be denied the privilege of swimming, while those with contorted nasal passages, especially if there is a history of so-called catarrh,

and those in whom the turbinates are prone to engorgement or are actually hypertrophic, should not be allowed in the water. Children with adenoid obstruction must not dive or swim. Proper habits of breathing during the crawl stroke or the dive must be taught; exhalation through the nose whenever the face is submerged and inhalation through the mouth whenever the mouth is out of water should be taught during the first floating lessons before actual swimming or diving takes place. The question of reducing these infections is only to be solved by the education of the public.

DR. JOSEPH D. HEITGER, Louisville, Ky.: As Professor Zuckerkandl pointed out long ago, the mucous membrane of the turbinates is very firm and hard, and is similar to the firm tissues in the palm of the hand and the sole of the foot. It is difficult to distinguish the various layers, and for that reason Hajek has described the structure of the middle turbinate as an "involucrum." When we consider the capsule of the ethmoid and the middle meatus, we find an entirely different condition; there the mucous membrane is thin and very easily irritated. As we well know, most sinus infections begin with the swelling, congestion, and disturbance of drainage and ventilation in this very vulnerable part of the nose, the ethmoid capsule and middle meatus, where Dr. Hasty found the charcoal. I have often wondered since this problem has come up just how much swimming teachers and professional swimmers suffer from sinus disease. There is a possibility that these persons are in excellent physical condition. Swimming is one of the best exercises, and doubtless it keeps their general immunity at such a high stage that the local irritation is overcome. A number of children's organizations require a certain amount of swimming and diving. The children who show any pathologic condition of the nose should be excused from that part of their work.

DR. GEORGE F. FISKE, Chicago: So far as I know, the largest infected swimming pool is Lake Michigan. Every summer I see a number of patients with furunculosis or with acute otitis media. As to the prevention, it would be very difficult to put enough charcoal into Lake Michigan to be of service. Several of us have actually advised our patients not to allow their children to swim there.

DR. M. M. CULLOM, Nashville, Tenn.: Many of us here have been practicing long enough to have antedated the period of swimming pools. We used to see cases of abscess of the middle ear from bathing in the running streams. Then we saw cases of middle ear abscess as a result of douching the nose. Then came the swimming pool. When they opened up the swimming pool in Nashville, about twenty-five years ago, I began to notice boys dropping in with abscess in the middle ear. Then I noticed three business men who had been going in the pool together come in with acute sinus trouble. One day nine boys came in with abscesses of the middle ear; I incised the drums of the nine boys in one day. I sent word to the secretary of the Y. M. C. A., whose pool the boys had been going to, that something was wrong. He was rather indignant. I asked him what precautions they took. They took absolutely none. People went in the swimming pool without taking a bath and without having been stripped and examined; there were no efforts at cleanliness made, and the water was very seldom changed. The Y. M. C. A. then instituted strict rules that all persons should take a bath before going into the pool and should be stripped beforehand to see if they were all right. The water was changed regularly, and the number of cases began to fall off. Any one who gets water in the nose is liable to get an abscess of the ear, because he is likely to wash the infected secretions from his own cavities into the eustachian tubes and set up trouble. It is in such cases that a middle ear abscess results from douching the nose. The supposition is that the reason persons douche the nose is that they have some sinus trouble, and the same theory holds true in those cases of middle ear abscess and mastoid in which there is an infected antrum. In at least 80 per cent of my mastoid cases, I have been able to demonstrate an infected sinus, usually an antrum and generally on the same side as the mastoid. I do not believe that any swimming pool can be kept clean. After a few people go in and blow their nasal secretions into the water, the water is infected. I believe that the swimming pool is a menace. There is less danger, of course, in going into running water, or water that is changed constantly, but I do not believe that any swimming pool can be kept clean.

DR. H. A. ROTHRATH, Westchester, Pa.: A friend on the swimming team of the last Olympic games told me when he came back from Paris that practically every member of that team had discharging ears. In the way of prophylaxis, I have always applied one of the organic silver salts in the nose, after swimming. I do not know whether it does any good or not, but I have tried it.

DR. F. E. HASTY, Nashville, Tenn: I would judge that when expert swimmers got infections, most likely there was at least one individual in that water who was suffering from a severe infection, and these swimmers were probably infected from that one individual.

TIME OF CONCEPTION AND OF OVULATION IN RELATION TO THE MENSTRUAL CYCLE*

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Although a few cases are on record which indicate that menstruation in woman, as in the monkey,[1] may occur independently of ovulation, it is held that, in general, ovulation occurs at a fairly definite time in each period, producing a corpus luteum which regulates the time of onset of the succeeding menstruation. Evidence for this has been obtained from patients at operation or from autopsies.[2] The actual day is given as between the eighth and the seventeenth, the exact time varying with the author.

Woman differs from the female in other species examined, except the macaque, in allowing coitus at any time during the cycle, and the question accordingly arises whether conception may occur at any time. This would appear to be unlikely if ovulation occurs at a definite point in the cycle, for it is improbable that the ovum preserves the power of fertilization for long after it is extruded from the follicle. In the rabbit, Hammond has shown that the ovum is not capable of being fertilized after four hours have elapsed from the time of ovulation, while in the same species spermatozoa retain their power of fertilization for only thirty hours after their deposition in the female tract.[3] If these time relations are true also for man, it renders a long continued period of fertility difficult to explain except on the assumption that ovulation may occur at any time, which, taking into consideration the regularity of the cycle, would appear to be unlikely according to present views. Possibly, however, such irregularities as do exist, and also irregularities in the length of the cycle in individuals, do represent differences in the time of ovulation. From this one might deduce the cause for the lengthened period of fertility found when the subject is studied by statistical methods.

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* From the Department of Anatomy, University of Rochester School of Medicine and Dentistry.

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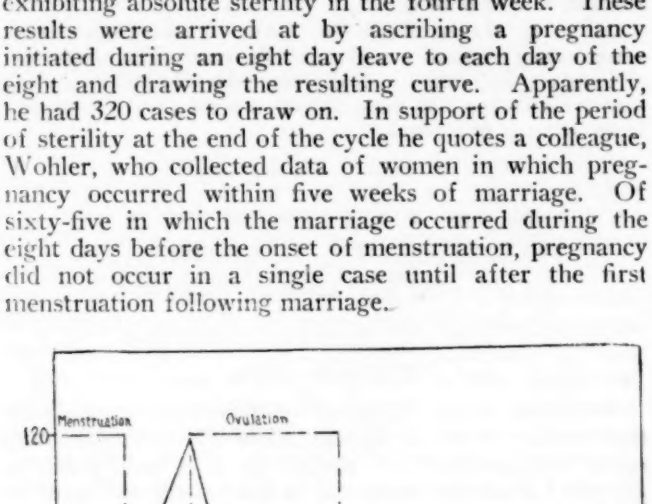
Although many studies of the relation of fertility to the cycle were made in German clinics during the war, that of Siegel [4] is the only one that appears to have attracted notice in other countries. This worker investigated material gathered at Freiburg in the obstetric clinic from the wives of soldiers having short and infrequent leaves. He drew up a curve of fertility within the cycle which gave high fertility for the first fortnight, declining during the third week and exhibiting absolute sterility in the fourth week. These results were arrived at by ascribing a pregnancy initiated during an eight day leave to each day of the eight and drawing the resulting curve. Apparently, he had 320 cases to draw on. In support of the period of sterility at the end of the cycle he quotes a colleague, Wohler, who collected data of women in which pregnancy occurred within five weeks of marriage. Of sixty-five in which the marriage occurred during the eight days before the onset of menstruation, pregnancy did not occur in a single case until after the first menstruation following marriage.



Curves of conception: Graph plotted at two day intervals; point taken at end of the period. Prewar 1, material from Ahlfeld et al.; Prewar 2, material from Issmer and Fürst; Nurnberger, data given for irregular periods, plotted to center of period; war data from Jaeger and Pryll; Siegel, average of two curves; percentages, and not number of cases, are represented.

Other observers in various German clinics have obtained similar results so far as the nature of the curve of sterility goes, but they do not find absolute sterility in the last period. Coitus may result in fertility at any stage, but this is least likely to occur just before the onset of the menstrual period. I have collected a large number of cases from the prewar literature which have a bearing on the problem. I have submitted these to analysis and present the results in the form of a chart, the meaning of which is discussed in this paper. In the majority of these cases, the data are given by Hecker and Buhl,[5] Ahlfeld [6] and Schlichting [7] in their studies on the duration of pregnancy. When analyzed, these figures show a state of affairs essentially similar to that of the war collections. It may be noted that these studies, when united, give an average duration of pregnancy of 279.9 days from the beginning of menstruation, and of 269.7 days from coitus. The difference, 10.2 days, corresponds fairly closely with what is believed by gynecologists to be the usual interval between the beginning of menstruation and ovulation. It must be noted that the dates given for menstruation may refer to the first or last day of menstruation, but the investigators themselves consider the date to refer to the first day, which it probably does in the majority of cases. However, as a few may refer to the last day, it would be fair to allow an extra day for the average difference in duration of pregnancy when reckoned from coitus and from menstruation, making an interval of eleven days. That is, the average for the duration of pregnancy from menstruation may be taken to be from the second day instead of from the first. The number of cases dealt with in this study is 568.

Both in the study of the duration of pregnancy and in that of the relative date of conception, I have omitted data in all cases in which fecundation is said to have occurred before the onset of the menses and those in which an interval greater than twenty-eight days is recorded, for as no details of variation in the length of the cycle are given, it was considered advisable to adopt a standard cycle of twenty-eight days. When more than one date was given for conception the case has been omitted unless the coitus was given as occurring on one of two adjacent days, when the earlier has been taken as the date of fecundation. A smaller number of cases have been added from data given by Zollner,[8] Gossrau,[9] Enge,[10] Winckel,[11] Hassler,[12] and Kjolseth,[13] bringing the total number up to 814. The curve obtained from these figures has been plotted for two day intervals to smooth out minor variations. It shows a steady rise from the beginning of the menstrual period to the eighth day, then a rapid fall, becoming more gradual, until the eighteenth day, after which the fall is very rapid. Complete sterility is not reached, but it may be noted that in the last eight days only 10.3 per cent of the total number of conceptions occurred.

Issmer has given a set of 423 cases which meet the requirements. These begin on the day after the menses cease, which has been taken as the fourth day, the series beginning on the fifth day. Furst has given a similar series of 186 cases. These figures when added show a peak at the eighth and tenth days of the cycle, with a gradual decline to the eighteenth day, after which the fall is rapid, 14.1 per cent of the cases falling within the last eight days.

From the data collected during the war, a curve has been constructed from the figures given by Jaeger [14] and Pryll.[15] These number 133. The curve is somewhat more irregular than the preceding ones. A maximum is reached at six days, with a fall to ten days; another maximum at sixteen days with a rapid fall afterward,

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10. Enge: Inaug. Diss. Leipzig, 1902.
11. Winckel: Klinische Vorträge, pp. 292-293.
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15. Pryll, W.: Zur Frage der Lebensdauer der Spermatozoen, Ztschr. f. Geburtsh. u. Gynäk. **79**: 522, 1917.

the curve being low and steady after the twentieth day. The number of conceptions in the last eight days is 12.8 per cent of the of the total.

Nurnberger [16] gives a series of 206 cases, but his results are not given in detail. A rough curve is drawn from his data, but as his figures are given only at wide intervals comparison is difficult. His number of conceptions in the latter part of the cycle is greater than those of other workers, for the percentage of fecundations taking place in the last five days is 11.2, a percentage of the same magnitude as the eight day figures previously given.

It is to be noted that none of these other collections give the absolute sterility found by Siegel toward the end of the cycle. Siegel also states that his cases showed a large preponderance of male births in the early part of the cycle, followed, after a period of even ratio, by a preponderance of females. His figures together with those gathered from other workers, are given in the accompanying table.

Sex Ratio of Births Relative to the Time of Conception *

Authority	1-9 Days		10-14 Days		15-21 Days		Total	
	♂	♀	♂	♀	♂	♀	♂	♀
Siegel	37	7	4	9	3	20	44	36
Nurnberger	41	39	29	27	26	21	96	87
Jaeger	32	16	8	14	12	17	52	47
Data from Hecker and Buhl, and Schlichting	93	82	46	48	63	58	202	188
Furst	40†	18†	23	28	28	35	91	81

* In this table ♂ indicates male; ♀, female.
† From five to nine days.

The materal from other workers shows that this relation does not hold for any other series that has been collected, the sex ratio being fairly normal whenever conception may occur.

The considerable spread of the time at which fertilization may occur is remarkable and quite different from what is known to be the case in other mammals in which coitus or artificial insemination is effective for limited periods only. This in itself suggests a limited fertile life for the sperm and for the ovum in most species, and the supposition is borne out in the rabbit by direct investigation. If a similar condition is allowed for the human being, one has to fall back on the possibility of variation in the time of ovulation. If this occurs at a definite time after the commencement of menstruation, the variability of the duration of pregnancy should be less when reckoned from menstruation than when reckoned from coitus. The reason for this is that whenever coitus, a variable, occurs, initiation of pregnancy can date only from the time of ovulation postulated as at a constant interval from the onset of menstruation. If, on the other hand, ovulation should follow coitus or be regulated in its time by this, the duration of pregnancy from the effective coitus should be the less variable. Evidence for the view that spontaneous ovulation may be accelerated by coitus was found by Marshall [17] in the sheep, within the limits of the time of estrus. In the series that I examined, it was found that the standard deviation of the duration of pregnancy reckoned from the beginning of menstruation is 12.0 days, while from conception it is 11.7 days. The probable error in each case is $\pm$ 0.2 day, and the difference is not significant.

These figures are so close together that it would seem that neither menstruation nor coitus exercises a markedly preponderating influence on ovulation. The conclusion is reached, therefore, that the time of ovulation is very variable within the cycle, but from a study of the conception curves it is seen to be more frequent during the first fortnight than during the last fortnight, assuming that equal opportunity for conception is allowed at all stages in the cycle, which is probable in view of the reliance placed by many in so-called safe periods. If this is so the rôle of the corpus luteum as the regulator of the cycle must be less than has been supposed. However, it must not be forgotten that in the data on which this conclusion is based, allowance cannot be made for the possible influence of the varying length of the cycle. Issmer gives the average duration from menstruation of pregnancy in 533 patients with a four week type of menstrual cycle as 278.8 days, and in 667 patients with an irregular type as 278.6 days, an insignificant difference, but the irregularity may be equal on either side of the mean. He gives twenty cases with a three week cycle, giving an average duration of pregnancy of 271.6 days, a length which certainly suggests that the duration of the cycle may be a factor in determining the length of gestation when reckoned from the onset of menstruation.

This variation would apparently occur through a reduction in the length of the menstruation-ovulation interval, but the number of cases is too small for satisfactory conclusions to be drawn from them. The argument for a curtailed ovulation phase becomes stronger, however, for the duration of pregnancy from conception is substantially the same in each type, being 269.3 days in ninety-five cases of the four week type; 267.8 days in eleven cases of the three week type, and 268.0 days in 522 cases of the irregular type. The evidence seems to suggest that while the time from ovulation to menstruation may be relatively invariable, that from menstruation to ovulation is very variable indeed. Consequently, the corpus luteum does influence the time of onset of menstruation to a marked degree, but the time required for the development of the resting follicle to the stage necessary for ovulation varies considerably with the individual. It may be that the older investigators who held that ovulation occurs during menstruation may sometimes have been correct in cases with cycles of very short duration.

SUMMARY

Curves showing the relation of fertility to the menstrual cycle in woman, drawn from data from a variety of sources, are substantially the same. Fertility is higher in the early part of the cycle, but falls rapidly from the sixteenth to the twentieth day. There is little evidence in favor of a period of complete sterility.

Differences in the duration of pregnancy when reckoned from the onset of menstruation and from conception are interpreted as indicating that the preovulation phase is extremely variable in its length and the postovulation (corpus luteum) phase relatively constant. It is on these lines that an interpretation of variation in the length of the menstrual cycle may be sought.

The time of conception is held to have no effect on the sex-ratio.

Crittenden Boulevard.

16. Nurnberger: Kreigzeugung und ihre wissenschaftliche Verwertung, München. med. Wchnschr. **65**: 252, 1918.
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HEXYLRESORCINOL IN URINARY TRACT INFECTIONS

THERAPEUTIC EFFECT *

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AND
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Through the courtesy of Dr. Veader Leonard, a large supply of hexylresorcinol has been placed at the disposal of Dr. Hugh Cabot for study of its therapeutic value at the University Hospital. During the past two years we have used the drug in about 200 cases of upper urinary tract infections. In general our results have been less brilliant than those reported by Leonard,[1] Henline,[2] Brown,[3] Wynne,[4] Elliott and Barbour, McCurry[5] and others.[6] As this clinic deals largely with patients with chronic diseases the vast majority of which come to us by virtue of their ability to resist the usual therapeutic measures, it seemed that our results would be of interest. On the other hand, the real test of any urinary antiseptic is its efficacy in this type of case. Acute infections that respond to any one of a dozen of the ordinary procedures do not require a new curative agent.

Of the entire group of patients treated with hexylresorcinol, only eighty-two have been controlled with sufficient accuracy to warrant their presentation as evidence for or against the value of the drug. In about 10 per cent, treatment was discontinued because they were unable to tolerate a full dose. Those cases of advanced pyonephrosis which we believed to be hopeless from the outset were discarded with two or three exceptions. Many patients were symptomatically relieved temporarily and discontinued the drug at intervals, contrary to our advice. These were discarded as

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TABLE 1.—*Observations in Eighty-Two Cases of Urinary Tract Infection Treated with Hexylresorcinol* *

Case Number	Age	Sex	Diagnosis	Duration of Symptoms Before Treatment	Days of Treatment	Dose, Gm.	Ureteral Catheterizations	Bacterial Culture: Bladder	Bacterial Culture: Right Kidney	Bacterial Culture: Left Kidney	Results: Not Improved	Results: Improved	Results: Cured	Final Culture
1	21	♀	Acute pyelitis	1 wk.	115	0.6	0	Staphylococcus albus	.....	.....	+	..	..	B. coli; Staphylococcus albus
2	18	♂	Acute pyelitis	2 mo.	95	0.6	2	Staphylococcus; streptococcus	Staphylococcus	Negative	..	..	+	Negative
3	21	♂	Acute pyelitis	2 mo.	95	0.6	4	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	..	+	Negative
4	19	♀	Acute pyelitis	2 days	120	0.6	1	B. coli	.....	B. coli	..	+	s	B. coli
5	26	♀	Acute pyelitis	3 days	90	0.6	0	Staphylococcus albus	.....	.....	..	..	+	Negative
6	25	♀	Acute pyelitis	2 days	65	0.6	1	B. coli	B. coli	.....	..	+	..	B. coli
7	38	♂	Acute pyelitis	1 wk.	90	0.6	2	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	+	s	Staphylococcus albus
8	24	♀	Acute pyelitis	Few days	39	0.6	4	B. coli	B. coli	B. coli	..	+I	..	B. coli
9	42	♂	Acute pyelitis	3 wk.	20	0.6	3	Negative	Negative	Negative	..	..	+	Negative
10	16	♀	Acute pyelitis	2 days	90	0.6	0	B. coli	.....	.....	+	..	..	B. coli
11	36	♀	Acute pyelitis	11 days	40	0.6	4	B. coli; Staphylococcus albus	B. coli	B. coli	..	+	s	B. coli; Staphylococcus albus
12	30	♂	Subacute pyelitis	5 days	50	0.6	3	B. pyocaneus	B. pyocaneus	Staphylococcus albus	..	+	..	B. pyocaneus
13	23	♂	Subacute pyelitis	5 days	54	0.6	0	B. coli	.....	.....	..	..	+	Negative
14	54	♀	Subacute pyelitis	3-4 days	110	0.6	2	B. coli	B. coli	B. coli	+	..	..	B. coli
15	31	♂	Subacute pyelitis	1 wk.	36	0.6	0	B. coli	.....	.....	..	+	s	B. coli
16	15	♂	Subacute pyelitis	1 mo.	80	0.6	1	Streptococcus	.....	Staphylococcus albus	..	..	+	Negative
17	48	♂	Chronic pyelitis	2 yr.	90	0.6	2	Staphylococcus albus	Negative	B. coli; Staphylococcus albus	..	..	+	Negative
18	67	♀	Chronic pyelitis	2 yr.	30	0.6	2	B. coli	B. coli	B. coli	+	..	..	B. coli
19	34	♂	Chronic pyelitis	Several years	190	0.6	0	Staphylococcus albus			+	..	..	Staphylococcus albus
20	40	♂	Chronic pyelitis	4 yr.	80	0.6	0	B. coli	.....	.....	..	+	..	B. coli
21	31	♀	Chronic pyelitis	3 mo.	110	0.6	2	B. coli	B. coli	B. coli	+	..	..	B. coli
22	23	♂	Chronic pyelitis	1 yr.	120	0.6	0	Staphylococcus albus	.....	.....	..	+	..	Staphylococcus albus
23	60	♀	Chronic pyelitis	9 mo.	69	0.6	0	B. coli	.....	.....	..	+	..	B. coli
24	24	♀	Chronic pyelitis	2 yr.	150	0.6	1	B. coli	.....	B. coli; staphylococcus	..	+	..	B. coli
25	41	♂	Chronic pyelitis	2 yr.	110	0.6	1	B. coli	Streptococcus; staphylococcus; B. coli	.....	+	..	..	B. coli
26	34	♀	Chronic pyelitis	3 mo.	110	0.6	4	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	+	s	Staphylococcus albus
27	40	♀	Chronic pyelitis	9 yr.	130	0.6	4	B. coli	Staphylococcus albus	Staphylococcus albus	..	+	..	B. coli
28	26	♀	Chronic pyelitis	1 yr.	115	0.6	6	B. coli	.....	B. coli; staphylococcus	+	..	..	B. coli
29	20	♀	Chronic pyelitis	1 yr.	140	0.6	0	B. coli	.....	.....	+	..	..	B. coli
30	26	♀	Chronic pyelitis	1 mo.	41	0.6	0	B. coli	.....	.....	..	..	+	Negative
31	42	♂	Chronic pyelitis	6 mo.	61	0.6	2	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	+	s	Staphylococcus albus
32	25	♂	Chronic pyelitis	4 yr.	114	0.6	5	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	+	s	Staphylococcus albus
33	33	♀	Chronic pyelitis	5 yr.	140+	0.6	4	B. coli	Negative	B. coli	..	+	..	B. coli
34	29	♂	Chronic pyelitis	2 yr.	85	0.6	6	Staphylococcus albus	Negative	Staphylococcus albus	..	..	+	Negative
35	52	♀	Chronic pyelitis	3 yr.	70	0.6	5	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	+	..	Staphylococcus albus
36	42	♂	Chronic pyelitis	2 yr.	77	0.6	3	Staphylococcus albus	Negative	Staphylococcus albus	..	..	+	Negative
37	57	♂	Chronic pyelitis	3 wk.	100	0.6	0	B. coli	.....	.....	..	+	s	B. coli
38	49	♀	Chronic pyelitis	2 yr.	102	0.6	0	Staphylococcus	Staphylococcus	Negative	+	..	..	Staphylococcus
39	34	♀	Chronic pyelitis	1 yr.	54	0.6	3	.....	Staphylococcus	Negative	..	..	+	Negative
40	42	♀	Chronic pyelitis	1 yr.	90	0.6	2	Streptococcus	Staphylococcus	Negative	..	..	+	Negative
41	25	♂	Chronic pyelitis	1 yr.	180	0.6	6	B. coli	M. tetragenus	M. tetragenus	+	..	..	B. coli

TABLE 1.—*Continued*

Case Number	Age	Sex	Diagnosis	Duration of Symptoms Before Treatment	Days of Treatment	Dose, Gm.	Ureteral Catheterizations	Bacterial Culture: Bladder	Bacterial Culture: Right Kidney	Bacterial Culture: Left Kidney	Results: Not Improved	Results: Improved	Results: Cured	Final Culture
42	27	♂	Chronic pyelitis	2 yr.	75	0.6	2	B. coli; Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	+	..	Staphylococcus albus
43	66	♀	Chronic pyelitis	6 yr.	40	0.6	6	.....	Staphylococcus	Staphylococcus	..	+	..	Staphylococcus
44	39	♀	Chronic pyelitis	3 mo.	50	0.6	2	.....	Staphylococcus	Staphylococcus	..	..	+	Negative
45	54	♂	Chronic pyelitis	2 mo.	73	0.6	0	B. coli	.....	.....	+	..	..	
46	30	♀	Chronic pyelitis	2 yr.	50	0.6	4	.....	Staphylococcus	Staphylococcus	..	..	+	Negative
47	50	♂	Chronic pyelitis	2 yr.	75	0.6	6	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	+	..	Staphylococcus albus
48	46	♂	Chronic pyelitis	3-4 mo.	40	0.6	2	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	..	+	Negative
49	44	♀	Chronic pyelitis	1 yr.	100	0.6	2	Staphylococcus; streptococcus	Staphylococcus	Staphylococcus	+	..	..	Streptococcus
50	38	♂	Chronic pyelitis	18 mo.	80	0.6	0	B. coli	.....	.....	+	..	..	B. coli
51	51	♂	Chronic pyelitis	8 mo.	73	0.6	2	Staphylococcus	Staphylococcus	Staphylococcus	+	..	..	Staphylococcus
52	57	♀	Chronic pyelitis	12 yr.	36	0.6	2	B. coli	Staphylococcus albus	Staphylococcus albus	+	..	..	B. coli
53	29	♀	Chronic pyelitis	1 yr.	53	0.6	2	Staphylococcus	Staphylococcus	Negative	+	..	..	Staphylococcus
54	27	♀	Chronic pyelitis	4 mo.	95	0.6	7	B. coli	B. coli	B. coli	..	+	..	B. coli
55	22	♀	Chronic pyelitis	6 mo.	30	0.3	0	B. coli	.....	.....	+I	..	..	B. coli
56	22	♂	Chronic pyelitis	1 mo.	61	0.6	0	B. coli; staphylococcus	.....	.....	..	..	+	Negative
57	60	♂	Chronic pyelitis	6 mo.	80	0.6	2	B. coli	B. coli	B. coli	..	+	s	B. coli
58	47	♂	Chronic pyelitis	2 yr.	72	0.6	0	Staphylococcus	.....	.....	..	+	..	Staphylococcus
59	56	♂	Chronic pyelitis	3 mo.	85	0.6	0	B. coli	.....	.....	..	..	+	Negative
60	35	♀	Chronic pyelitis	3 mo.	110	0.6	4	Staphylococcus	Staphylococcus	Staphylococcus	..	+	s	Staphylococcus
61	45	♀	Chronic pyelitis	6 yr.	53	0.6	1	B. coli	Negative	.....	..	+	..	B. coli
62	34	♀	Chronic pyelitis	2 mo.	63	0.6	2	B. coli	B. coli	Negative	..	..	+	Negative
63	28	♀	Chronic pyelitis	9 mo.	90	0.45-0.6	2	B. coli	B. coli	B. coli	..	+	..	B. coli
64	42	♂	Subacute pyelitis, cirrhosis liver	3 wk.	7	0.6	2	Staphylococcus	Negative	B. alkaligenes	+I	..	..	Staphylococcus albus
65	41	♂	Prostatectomy, subacute pyelitis	2 yr.	200	0.6	17	Staphylococcus; streptococcus; B. coli	Staphylococcus; B. coli	Staphylococcus albus	..	+	..	Staphylococcus albus
66	24	♂	Subacute pyelitis, cystitis, prostatitis	2 yr.	80	0.6	4	Staphylococcus; streptococcus	Negative	Negative	..	..	+	Negative
67	39	♀	Nephrolithiasis	3 yr.	50	0.6	4	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	+	..	Staphylococcus albus
68	42	♂	Chronic prostatitis, chronic pyelitis	10 yr.	150	0.6	7	B. coli	B. coli	B. coli	+	..	..	B. coli
69	25	♂	Chronic prostatitis, chronic pyelitis	2 yr.	100	0.6	6	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	+	..	..	Staphylococcus albus
70	45	♂	Pyonephrosis	4 yr.	50	0.6	4	B. coli	Staphylococcus	Staphylococcus	+	..	..	Staphylococcus
71	40	♂	Nephrolithiasis	4 yr.	94	0.6	3	B. coli	Staphylococcus aureus	Negative	..	+	..	B. coli
72	18	♂	Bladder stone	3 mo.	50	0.6	0	Staphylococcus	.....	.....	..	+	s	Staphylococcus
73	19	♂	Ureters transplanted, exstrophy of bladder	2 days	15	0.6	0	.....	.....	.....	..	+	s	
74	33	♀	Chronic pyelitis, interstitial cystitis	3 yr.	117	0.6	4	B. coli	Negative	B. coli	+	..	..	B. coli
75	46	♂	Chronic pyelitis, ureteral stricture	3 mo.	33	0.6	4	.....	.....	Streptococcus; diplococci; Staphylococcus albus	..	..	+	Negative
76	59	♀	Chronic pyelitis, diabetes	1 yr.	42	0.6	3	B. coli	B. coli	Negative	..	+	..	B. coli
77	63	♂	Chronic pyelitis, chronic prostatitis	6 yr.	48	0.6	0	B. coli	.....	.....	..	..	+	Negative
78	61	♂	Pyonephrosis	Several years	60	0.45	3	B. coli; pyocyaneus	.....	B. coli; pyocyaneus	+	..	..	B. coli; pyocyaneus
79	36	♂	Perinephritic abscess	2 yr.	155	0.6	1	B. coli	B. coli	.....	+	..	..	B. coli
80	23	♀	Chronic pyelitis, stricture of ureter	3 yr.	100	0.6	11	Staphylococcus aureus	Staphylococcus aureus	B. coli	..	..	+	Negative
81	51	♂	Chronic pyelitis, chronic prostatitis	2 yr.	43	0.6	0	Staphylococcus; B. coli	.....	.....	..	+	s	B. coli
82	50	♂	Cystitis, prostatitis, papilloma of bladder	Several years	100	0.6	2	Streptococcus; staphylococcus	Negative	Negative	+	..	..	Streptococcus; staphylococcus

* To designate sex, the symbol ♂ is used for masculine and ♀ for feminine. Symptomatically cured is indicated by s; intolerant to the drug, by I.

unconvincing. Still others were not improved within reasonable periods of time and failed to return.

In all cases the details of treatment as laid down by Leonard were carefully observed. Hexylresorcinol was given in 0.6 Gm. doses in olive oil after meals, three times daily. Patients were directed not to force fluids. Because of its effect on surface tension and consequent lowering of the bactericidal action of the drug, sodium bicarbonate as well as water was blacklisted. With few exceptions, weekly bladder lavages were carried out as suggested. All patients under observation were subjected to complete general as well as genito-urinary examinations. Foci of infection were removed when indicated. Obvious causes for the persistence of urinary infection, as stones, were removed. Ureteral strictures were dilated and perinephric abscesses drained. In short, the drug was given every opportunity to deal with the existing infection. On the other hand, all the usual measures for actively combating upper urinary tract infections were discontinued. As renal pelvic lavage is in itself one of the most efficient means for treating these cases, it was done only when urine specimens were taken to follow up the progress of treatment. In a few cases in which the diagnosis was certain, ureteral catheters were never passed.

The bacteriologic work was carried out in the Central Laboratory of the University Hospital under the direction of Dr. Fowler. In all cases sufficient quantities of culture mediums were used to avoid the possible inhibitory action of the urine. It was an interesting observation that, in mixed infections, cocci often disappeared from the urine first. Frequently the culture reports would be returned negative when organisms were found in the smears of centrifugalized fresh specimens. In these cases we were guided by the smears rather than by the cultures.

CRITERIA OF CURE

Patients were frequently symptomatically cured though organisms were present in the urine. Occasional cultures would be returned negative on patients sympto-

matically cured. We did not regard these as cured, however, unless smears made from centrifugalized urine specimens were free from bacteria and white blood cells. The presence of bacteria, even though dead, means that there is still an active focus of infection inaccessible to the drug. The importance of this is borne out by the fact that in spite of our caution in declaring cases cured, within one year after discharge relapses had occurred in one-half of our cured cases.

INTERPRETATION OF RESULTS OF TREATMENT

In table 1 are listed the eighty-two cases, together with all the data of importance regarding them. A few cases demand separate consideration to justify their introduction there.

Patient 64, with subacute pyelitis and cirrhosis of the liver, was treated only seven days. He was the only patient in whom the drug was definitely toxic. Almost immediately after a full dose was taken there was marked swelling of the legs and distention of the abdomen. Curiously enough there was no change in the renal function nor were there any casts or albumin in the urine. The discontinuation of the drug was followed by rapid improvement.

Patients 70 and 78 were the only two with well established pyonephrosis that were kept on hexylresorcinol after the diagnosis was definitely established. They were followed only for the sake of completeness. We did not expect favorable results. They showed no improvement whatever. For this reason no effort was made to continue the treatment over a long period of time.

Table 2.—*Results of Treatment in All Cases of Pyelitis*

	Not Improved	Symptomatically Improved	Cured	Cured
Acute and subacute pyelitis...	18%	44%	63%	38%
Chronic pyelitis	32%	42.5%	38%	25.5%
All cases	25%	43%	50%	32%

Patient 73 was of interest in that he had both ureters transplanted into the sigmoid several years ago because of exstrophy of the bladder. This boy had an attack of chills, high fever and costovertebral tenderness. Under treatment with hexylresorcinol he was symptomatically cured in two weeks.

Patient 72, with bladder stone, and patient 82, with a papilloma of the bladder, were treated with hexylresorcinol to determine the effect of the drug on the bladder after the cause of the cystitis was removed.

In all the cases complicated with chronic prostatitis, the prostatic lesion was insignificant.

Among the uncomplicated cases of acute and subacute pyelitis we had a few of the same spectacular results reported by other observers. Some of these were in patients who failed to respond to other types of treatment. Probably the most outstanding effect of the drug, however, is its rapid and frequent complete relief from symptoms. This occurred in 70 per cent of the cases.

Study of the table as a whole suggests the following observations:

1. The average duration of symptoms before treatment was begun in cured cases of pyelitis was nine and one-half months, while in improved cases it was twenty-three months. These observations bear out what would logically have been expected; namely, that the older the infection the less chance for a cure.

2. Approximately 42 per cent of the coccus infections, 19 per cent of the bacillus and only 12 per cent of the mixed group, were cured. As the important problem for the urologist is the cure of the last two groups, these results are not very encouraging.

3. Table 2 shows the results of treatment in all cases of pyelitis. That the acute and subacute cases respond far better to treatment than the chronic ones would be anticipated, but the percentage of cures in these two groups is lower than we had hoped. This table, we believe, presents most accurately the true picture of our results. These patients were the most thoroughly studied and most carefully followed of all of those treated.

4. If all the cases in table 1 be considered, our results are: not improved, 32 per cent; improved, 41 per cent; symptomatically cured, 42 per cent; cured, 27 per cent.

In searching for the results obtained in the treatment of urinary tract infections by all methods, we find that Braasch and Cathcart [6] have reviewed about 2,000 cases at the Mayo Clinic with this in mind. Their observations offer a first class standard for comparison. In general they find that about one third of all patients grow progressively worse and go on to death; the second third improve and the remaining third get well. Our observations in the treatment of urinary tract infections with hexylresorcinol correspond closely with these.

CONCLUSIONS

1. Hexylresorcinol alone in the treatment of patients with upper urinary tract infections in whom foci of infection and all types of urinary tract obstruction have been removed will cure about one third of them. There will be an additional 20 per cent of symptomatic cures. Approximately 43 per cent will be improved and about 25 per cent will remain unchanged.

2. An important and valuable effect of the drug is its rapid and continued relief of symptoms in all but about one fourth of the cases of upper urinary tract infections.

3. The earlier in the course of the disease that treatment is begun, the greater the chance for cure. The average duration of symptoms in cured cases is nine and one half months, while that in improved cases is twenty-three months.

4. In mixed infections under treatment, cocci often disappear from the urine while colon bacilli remain.

5. Coccus infections respond to treatment with hexylresorcinol far more certainly than bacillus or mixed infections.

6. Combined with other effective methods of treatment of the upper urinary tract infections, is it not unlikely that a considerably higher proportion of cures may be obtained?

Instincts Do Not Change.—Thousands of years ago, races living long before the birth of Christ are believed to have had about the same bodily organs, the same physical capacities, the same instincts, emotions and intellect which their descendants now have. This is not a denial of evolution in man's equipment, but a statement of the fact that evolution is extremely slow. Our native organization, if the biologists are correct, would seem to constitute a more effective adaptation to the primitive life of the savage than to modern customs, habitations and conditions. We would expect to be well fitted to a life of abundant physical activity in the search of foods, berries, nuts, game, or in conflict with animals and other enemies, to the avoidance of such dangers as lightning, animals prowling in the darkness, winds, floods, falling trees or rocks, to rude sorts of implements or houses, to fairly simple social groups, rather than to typewriters and printed books, to refined foods and confined quarters, to indoor vocations and complex social conditions.—Gates: Psychology for Students of Education, pp. 128-129.

EPHEDRINE IN ASTHMA AND HAY-FEVER

VALUE OF EPHEDRINE AS SHOWN BY ITS USE IN ONE HUNDRED AND TEN CASES OF ASTHMA AND TWENTY CASES OF HAY-FEVER

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Whenever a new drug makes its appearance, especially one that theoretically should prove of great usefulness, there is an immediate reaction among clinicians of overenthusiasm in judging its value. Such overenthusiasm has one good effect in that the use of the drug becomes widespread; numerous reports appear on its clinical application, and from these one arrives at a more correct judgment of its value. This report of the use of ephedrine in asthma and hay-fever is offered to aid in such an evaluation.

The work of Chen and Schmidt [1] first suggested the used of ephedrine in asthma and allied conditions. These authors pointed out the similarity of its action to epinephrine and its added advantages over the latter of a more prolonged action and a definite effectiveness on oral administration.

At this point it may be interesting to relate our efforts to obtain the drug for clinical use when Chen and Schmidt's report was first published. After a vain attempt to obtain a supply we turned to possible nearby sources and found that according to Abrams [2] five species of *Ephedra* grow in California. *Ephedra californica* was collected on the desert near Palm Springs, Calif., and worked up according to methods reported by Chen [3] and by Chou.[4] No appreciable amount of any alkaloid was obtained. A quantity of another variety, *Ephedra nevadensis*, from the desert in the vicinity of Palmdale, Calif., was then collected and here again no alkaloid was obtained.[5] Later we obtained and used clinically the preparation of ephedrine sulphate distributed by the Eli Lilly Company. This preparation, according to the report of the Council on Pharmacy and Chemistry of the American Medical Association [6] contains a small amount of the pseudo compound.

We have used this preparation of ephedrine sulphate in 110 cases of asthma. The dosage has been, in adults, usually 50 mg., and in children 25 mg., and always given by mouth. We have found the administration of the drug most effective just before the time of an expected asthmatic attack or during the prodromal period of an attack. When nocturnal attacks were expected a patient was often maintained in complete freedom from asthma by the use of the drug on retiring, or, if suffering from repeated diurnal attacks, by its use every three or four hours during the day. Administration on an empty stomach was more efficacious in that absorption was more rapid and complete.

In attempting to classify our results into three groups, as others have done, namely, complete relief, partial relief and no relief, we were struck by the fact that such a classification was a misleading measure of the effectiveness of the drug. True, 22 per cent of our patients could be classified as having obtained no relief, but we felt that the essential factor was not the patient but the severity of the asthmatic attacks. Carefully reviewing our cases we came to the conclusion that mild attacks may usually be wholly aborted, moderately severe attacks partially relieved, and severe attacks only occasionally relieved. Not infrequently this was demonstrated in the individual patient who obtained relief during a mild attack or in the mild prodromal stages of the severe attack from which he usually suffered, and no relief during a severe paroxysm. Practically all of the 22 per cent of our patients who never obtained relief from ephedrine were suffering from a more or less constant and severe type of bronchial asthma. Let us emphasize, then, that the severity of the attacks and not some inherent quality of the patient is the limiting factor of the effectiveness of ephedrine. Conclusions drawn from a comparative enumeration of patients relieved and not relieved give an erroneous evaluation of its clinical usefulness.

No difference has been noted in the effectiveness of the drug in children and adults.

A striking characteristic of ephedrine that we as well as others have often noted is that each succeeding dose may become less and less effective, analogous to its action as a pressor substance as noted by Chen and Schmidt [1] and Rowntree and Brown.[7] Only a few mild cases do not show this increasing tolerance to the drug.

As Chen,[1] Miller,[8] Rowntree [7] and others have noted, certain untoward effects may follow the use of ephedrine. These are usually mild and consist of tremor, apprehension and palpitation as in 20 per cent of our cases, and in addition insomnia as in 5 per cent. In two cases there was nausea and in one other marked nervous excitement, both from our usual dosage.

Five hay-fever patients were given ephedrine by mouth. Only one experienced relief. On the other hand, twenty hay-fever patients received topical applications of a 3 per cent ephedrine sulphate solution in the nose, and in only two was there no relief. The remainder experienced from twelve to twenty-four hours' relief. The advantage of ephedrine over epinephrine in this particular application was found to be marked in that with ephedrine there is very little irritation, only occasional sneezing and a very prolonged action, confirming the reports of Davis [9] and Gaarde and Maytum.[10]

CONCLUSIONS

1. A study of the results of the action of ephedrine sulphate in 110 cases of asthma shows that it is a drug of considerable value in the symptomatic treatment of this disease but falling far short in its effectiveness as compared with epinephrine.

2. A study of the results of the use of ephedrine sulphate in twenty hay-fever patients shows that it is a drug of considerably greater value than epinephrine as a topical application.

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PERIARTERIAL SYMPATHECTOMY IN EPILEPSY *

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It has come to be considered axiomatic that a multiplicity of therapeutic methods in the treatment of a given disease connotes a paucity of cures attributable to any one method. Of no condition is this statement truer than of epilepsy.

Sir William Gowers [1] casually mentions helminthiasis and ovarian and uterine abnormalities in a consideration of the etiology of epilepsy. In the same article he states that "it would be a waste of time to describe the various operations that have been advocated for epilepsy, whether on arteries or on the sympathetic nerves, which have their day and cease to be, not much to the credit of the profession."

Block [2] quotes A. E. Russell as stating that "the fundamental factor underlying the epileptic fit is cerebral anemia." Russell in turn quotes Fox as "attributing the loss of consciousness and tonic spasm to cerebral vasoconstriction and the clonic convulsion to gradual yielding of the vasomotor constriction, allowing some blood to reach the brain, but not enough for complete cerebral control." Block adds, however, that "Turner calls attention to the fact that paralysis of the vasoconstrictor nerves from removal of the superior sympathetic ganglion does not cure epilepsy."

An enumeration of the drugs supposed at some time or other to be of use in epilepsy would be not much unlike a composite of the pharmacopeias of all time. Nor has the line of approach been exclusively medical. Surgeons have from time to time advised one or another form of operation intended to relieve victims of this disease.

Practically all the surgical procedures thus far advocated fall logically into one of the following four groups:

1. Operations on the brain or skull. Trephining, by way of example, was at one time considered the panacea for grand mal. No less an authority than Sir William Gowers, while condemning all other surgical attempts at cure, recommended trephining, admitting, nevertheless, that he could not on an *a priori* basis explain its successes.

2. Operations based on the theory that epilepsy is due to peripheral irritation. In this category, among others, may be placed hysterectomy, clitoridectomy, oophorectomy, cholecystectomy, nasal and aural polypectomy, tonsillectomy, appendectomy and the extraction of carious and impacted teeth.

3. Operations based on the theory that epilepsy is due to intestinal autointoxication. Prominent among these have been appendicostomy, colon resection, short-circuiting and the so-called Lane kink operation.

4. Operations based on the theory that there is a craniocirculatory vasomotor imbalance. These are the most modern and include periarterial sympathectomy, ganglionectomy and suprarenalectomy.[3]

Some of the more recent attempts in this direction by Tinel [4] and Wagner,[5] each of whom reported only a single case, and by Bojovitch,[6] who reported seven cases, were encouraging enough to stimulate us to investigate both the method and the results of periarterial sympathectomy in the treatment of epilepsy. Our approach was both experimental and clinical.

Experimentally, we sought to determine in dogs whether carotid periarterial sympathectomy is safe, as to both its immediate and its more remote effects, and whether there is demonstrable evidence of vasodilatation of the cerebral vasculature following this procedure.

Clinically, we sought to determine whether there is any diminution in the frequency and the severity of the seizures, or any other improvement in the patients' condition.

METHOD

Experimental.—A series of dogs on which a carotid periarterial sympathectomy was done were injected intravenously with 10 cc. of a 0.3 per cent aqueous solution of methylene blue (per kilogram of body weight), following a modification of the Herter and Richards [7] technic on rabbits. Twenty minutes after injection the animals were killed, and their brains removed and preserved in formaldehyde. Another series of control dogs, unsympathectomized, were likewise injected with methylene blue and killed in the same period of time. Sections were made of both series for microscopic study.

Clinical.—A series of nine patients were operated on. The method of approach was similar to that employed for cervical ganglionectomy. In nearly all the cases, on the right side of the neck we were able to reach the internal carotid artery and isolate it sufficiently to do a circumferential denudation by the usual Leriche [8] technic. Only about 1 or 2 cm. of the artery was denuded. In the majority of the cases, the left internal carotid artery could not be reached with sufficient ease, and denudation of the common carotid was performed. The common carotid could be isolated quite easily and denudation was usually done for a distance of 3 or 4 cm.

A few mishaps were encountered during these operations, such as perforation of Sibson's fascia with audible aspiration of air into the pleural cavity. The amount of air aspirated, however, was very small as suture of the fascia was done promptly, and a pneumothorax was not demonstrable in the roentgenograms taken soon after this accident. Also, the artery was nicked on two occasions, necessitating lateral suture. However, the convalescence was uneventful in all the cases.

RESULTS

Experimental.—There was no evidence of an increase in the caliber of the cerebral vasculature of either the macroscopic or the microscopic vessels, as a result of sympathectomy. The methylene blue stained the brains of the sympathectomized and the control animals equally intensely. Furthermore, in sections counterstained with eosin no variation in the intensity of penetration of nerve tissue by the methylene blue, in the sympathectomized animals as compared with the controls, was demonstrable.

* From the surgical service of Dr. William Seaman Bainbridge.

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In concurrence with other observers, we noted definite diminution in the caliber of the carotid artery during the denudation, and were able at reoperation from eight to twelve days later, to demonstrate in some of the animals a variable degree of carotid dilatation.

Barring anesthesia deaths the procedure in our hands, in these animals, proved safe, though difficult technically.

Clinical.—The accompanying table fully expresses the clinical results of this operation in our hands. The duration of the disease in these cases ranged from ten to thirty-five years, and had existed from early childhood in most of them.

Results of Periarterial Sympathectomy

			Before Operation			After Operation		
Name	Age	Sex*	No. of Months	No. of Seizures	Type of Seizures	No. of Months	No. of Seizures	Type of Seizures
W. M....	23	♂	4	18	Major	7	2	Minor
J. F....	38	♂	4	43	Major	5	2	Minor
C. M....	26	♂	3	30	Major	6	79	Major
M. D....	44	♀	4	32	Major	5	21	Major
L. R....	30	♀	5	26	Major	3	22	Major
J. M....	29	♀	5	27	Major	3	24	Major
B. O....	16	♀	4	19	Major	4	23	Minor
M. R....	15	♀	4	12	Major	5	0	
A. J....	16	♂	2	68	Major	2	90	Major

* In this column, ♂ indicates male; ♀, female.

A review of this table indicates that in three cases there were almost complete remissions. While we do not assert that these remissions were a result of the operation, yet it seems significant that in one case in which there were forty-three major seizures during four months prior to operation there were only two minor seizures during five months following; in another case there were eighteen major seizures during four months prior to operation and two minor seizures during seven months following; in still another case, with twelve major seizures during four months prior to operation, there were no seizures during five months following. In one case there was a transition from major to minor seizures.

In the remaining five cases, three patients were unimproved and two had more seizures after operation than before.

COMMENT

As stated, no demonstrable vasodilatation occurred in the cerebral vessels of animals previously subjected to pericarotid sympathectomy.

It is still a question whether or not the cerebral vessels are supplied with vasoconstrictor fibers. Ranson, in a personal communication to one of us (H.), states that, although these vessels are abundantly supplied with sympathetic fibers, "there is no good physiological evidence of vasoconstrictor fibers for the cranial vessels" but, he adds, "in spite of the negative physiologic evidence it seems probable to me that at least some of these [sympathetic] fibers have a vasoconstrictor function."

Although no definite conclusion regarding the presence or absence of vasoconstrictor fibers can be drawn from our experimental work, the results seem to point to their absence rather than their presence.

From the clinical point of view we are on safer ground. Our series is comparatively large and has been carefully followed over a period of several months, and we feel that our results carry at least as much weight as any series heretofore reported.

It is quite possible that there are epileptic persons, as Forster [9] suggests, who may benefit by pericarotid sympathectomy. He points out that only in cases in which there is definite evidence of sympathetic imbalance associated with the epilepsy, such as tachycardia, mydriasis and thyroid or ovarian dysfunction, does surgery offer any hope of cure. Our clinical work gives us opportunity neither to affirm nor to deny this statement.

Finally, one more point demands discussion. The possibility must be weighed whether or not the successes of Tinel, Wagner and Bojovitch are explainable on the basis of the statement of Block who, commenting on the successes reported following superior cervical ganglionectomy, remarks, "It is probable that the anesthetic had more to do with the improvement than did the operation."

CONCLUSIONS

1. We are unable to demonstrate dilatation of cerebral vessels following pericarotid sympathectomy.
2. No evidence is adduced to contradict Forster's opinion that it is of value in cases presenting symptoms of sympathetic imbalance.
3. Without ruling out the possibility of more remote effects, we find, after observations extending over a period of seven months, that pericarotid sympathectomy does not have deleterious effects on the experimental animal or on human beings. However, the operation itself is not free from danger both from technical and for anatomic reasons.
4. Further observation of the four apparently benefited patients is indicated to determine whether the improvement is transitory or permanent.
5. Finally, while we do not consider pericarotid sympathectomy an entirely unpromising procedure in the treatment of epilepsy, we cannot advocate its indiscriminate use.

9. Forster, E.: München med. Wchnschr. **70**: 1114 (Aug. 31) 1923.

DIURESIS VERSUS ANTISEPSIS IN THE TREATMENT OF URINARY INFECTIONS

WITH A NOTE ON DRUG ROTATION *

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The ingestion of large quantities of water together with various salts, such as sodium bicarbonate or the citrates, had become a standard procedure in the treatment of urinary infections long before the advent of internal urinary antiseptics. Opinion is probably unanimous today that in the acute urinary infections, most of which are self limited, this treatment shortens the course of the disease, and that in the chronic urinary infections it is distinctly palliative.

Since all the organisms commonly invading the urinary tract grow readily in urine of any hydrogen ion concentration which it is possible to attain by the administration of any drug, it would appear that alkalization of the urine is probably of little significance per se. The salts employed for this purpose, however, all possess diuretic action, and it seems probable that their value depends chiefly on this property. In other words, the treatment of urinary infection by "forcing fluids" and "alkalization" is essentially treatment by diuresis.

The demonstration of formaldehyde as a decomposition product of methenamine in acid urine by Nicolaier,[1] in 1895, offered a new opportunity in the

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1. Nicolaier: Deutsche med. Wchnschr. **21**: 541, 1895.

treatment of urinary infections: antisepsis by internal medication. During the next fifteen years this drug came into almost universal use, the usual procedure being to administer 5 or 10 grains (0.32 or 0.63 Gm.) three or four times daily, together with large quantities of water.

No detailed experimental investigation of its activity as a urinary antiseptic seems to have been made until 1912, when Burnam [2] showed that on the customary doses of methenamine not more than one patient out of five would show any formaldehyde in the urine, and that only 60 per cent would show it on massive doses, such as from 20 to 30 grains (1.3 to 2 Gm.) every four hours.

The following year Hinman [3] undertook a thorough study of the factors influencing the excretion of methenamine and its conversion to formaldehyde in acid urine. Quantitative estimations of the formaldehyde content of the urine of patients receiving 15 grains (1 Gm.) of methenamine three times a day were made by a modification of the Rimini method.[4]

Of the 318 specimens of bladder urine examined by Hinman, 64 per cent were found to contain so little formaldehyde (less than 1:30,000) as to be devoid of antiseptic value. Of the remainder, only 17 per cent showed formaldehyde in concentrations sufficient for complete bacteriostasis, and only 5 per cent were germicidal.

Of twenty-three specimens of urine obtained directly from the kidney pelvis by renal catheter, eighteen did not show any formaldehyde whatever, while the remaining five showed mere traces (1:60,000) and were devoid of antiseptic value.

Hinman concluded that methenamine is of no value at the kidney level, because the urine does not remain in the renal pelvis a sufficient length of time to permit the conversion of the drug into formaldehyde, and that the same conditions obtain in the bladder if urination is frequent. He concluded further that restriction of fluids is necessary for the reason that polyuria not only reduces the concentration of formaldehyde, on which the efficacy of the treatment depends, but also inhibits its formation by reducing the acidity of the urine even to the point of completely offsetting the advantages of large doses.

Hinman's work, which has never received the recognition its importance deserves, has since been confirmed both in this country and abroad by Walker,[5] Hoest,[6] Culver,[7] Camino,[8] Nicolaysen,[9] Sutton,[10] Albano [11] and others. These investigators conclude that methenamine is of little or no value at the kidney level under any circumstances and can be effective in the bladder only if diuresis is avoided and the bladder emptied only at intervals of from four to six hours. Only with these precautions may concentrations of formaldehyde sufficient to exert any antiseptic action be demonstrated in the urine. Owing to the time element essential for the conversion of methenamine in the bladder, Sutton points out that the drug is also valueless in patients fitted with retention catheters and in urinary fistulas.

While it appears to be of considerable importance to avoid diuresis during treatment with any urinary antiseptic, it is absolutely essential that the ingestion of large quantities of fluids and of diuretic drugs be avoided during treatment with hexylresorcinol. In this instance one is dealing with a compound which is most active, in the concentrations appearing in the urine, at the lower ranges of surface tension. The drug itself is a powerful reducent of surface tension, and in therapeutic doses will depress the surface tension of the urine to those levels at which it is highly active. Not only does dilution of the urine through the ingestion of large quantities of water, or of diuretic drugs, result in lowering the concentration of hexylresorcinol in the urine, but concentrations of the germicide which would otherwise be highly bactericidal are inactivated by the rise in the surface tension of the urine which accompanies dilution.[12] Hexylresorcinol is equally active in acid or alkaline urine; yet the diuretic properties of therapeutic doses of sodium bicarbonate may be sufficient to inactivate the drug in the urine through the dilution and consequent rise in surface tension which results. That this is not due to the alkalinity of the urine or to any direct action of the sodium bicarbonate is proved by the fact that sodium bicarbonate added in large amounts to a specimen of urine containing hexylresorcinol neither raises the surface tension of the fluid nor inactivates the drug.

In spite of these observations on the importance of concentration, the custom of employing various urinary antiseptics in conjunction with large quantities of water persists. It should be emphasized that in certain instances the benefits to be derived from the administration of large quantities of fluids may be of far more importance than disinfection of the urinary tract. Under these circumstances the urinary antiseptic might just as well be discontinued until such time as the necessity for "forcing water" no longer exists. In other words, urinary infections may be treated by diuresis or they may be treated with internal urinary antiseptics. All the experimental evidence available indicates decisively that these two methods of treatment should never be combined.

While the activity of methenamine, feeble at best, is reduced by diuresis, in the case of hexylresorcinol the effect is even more striking. Normal men receiving therapeutic doses of hexylresorcinol together with a moderate quantity of water (1,200 cc. daily) secrete an almost continuous flow of bactericidal urine. If the quantity of water is doubled, bactericidal urine appears only intermittently, and if excessive amounts of fluids are taken, bactericidal specimens are rarely obtained.

It is obvious that clinical results with hexylresorcinol could hardly be satisfactory unless diuresis is carefully avoided. In this connection it is interesting to compare the clinical results of hexylresorcinol treatment reported by Henline,[13] who avoided diuresis during treatment, with those of Helmholz,[14] who did not. In a series of fifty cases of chronic urinary infections of durations varying from six months to fourteen years, and which had resisted other treatment for periods varying from

2. Burnam, C. F.: An Experimental Investigation of the Value of Hexamethylenamine and Allied Compounds, Arch. Int. Med. **10**: 324 (Oct.) 1912.
3. Hinman, Frank: An Experimental Study of the Antiseptic Value in the Urine of the Internal Use of Hexamethylenamine, J. A. M. A. **61**: 1601 (Nov. 1) 1913.
4. Rimini: Chem. Zentralbl. **1**: 1152, 1898.
5. Walker: Edinburgh M. J. **12**: 503, 1914.
6. Hoest: Ztschr. f. klin. Med. **81**: 272, 1915.
7. Culver: Urol. & Cutan. Rev. **25**: 149, 1921.
8. Camino: Siglo méd. **68**: 465, 1921; Ref. Ztschr. f. urol. Chir. **7**: 286, 1921.
9. Nicolaysen, L.: Acta med. Scandinav. **53**: 804 (Jan.) 1921; Ref. Ztschr. f. urol. Chir. **7**: 46, 1921.
10. Sutton, M. G.: M. J. Australia **1**: 31 (Jan. 13) 1923.
11. Albano: Riv. ital. di ginecol. **1**: 529, 1923; Ref. Ztschr. f. urol. chir. **15**: 318, 1924.
12. Leonard, Veader; and Frobisher, M.: Tr. Am. A. Gen. Urin. Surgeons **18**: 333, 1925; J. Urol. **15**: 1 (Jan.) 1926. Leonard, Veader; and Wood, Austin: The Present Value of Hexylresorcinol as an Internal Urinary Disinfectant, J. A. M. A. **85**: 1855 (Dec. 12) 1925.
13. Henline, R. B.: Hexylresorcinol in Treatment of Fifty Cases of Infections of Urinary Tract, J. Urol. **14**: 119 (Aug.) 1925.
14. Helmholz, H. F.: Therapeutic Value of Hexylresorcinol in Chronic Pyelitis of Childhood, Am. J. Dis. Child. **32**: 396 (Sept.) 1926.

one to forty months, Henline obtained complete disinfection of the urinary tract with hexylresorcinol in all but three cases (92 per cent). In a series of fourteen cases of chronic urinary infections of durations varying from six weeks to fourteen years, Helmholz observed complete disinfection of the urinary tract with hexylresorcinol in only one case. While the course of treatment given by Helmholz was, on the average, considerably shorter than that employed by Henline, the striking difference in the results of these two observers is obviously attributable to the factor of diuresis. The active diuresis customarily employed in conjunction with urinary antiseptics in the clinic from which Helmholz' cases were reported even raises the question whether hexylresorcinol was in fact responsible for the single successful result observed.

The most interesting feature of Helmholz' report is the astonishing rapidity with which six out of nine uncomplicated cases, which had been treated with hexylresorcinol for periods varying from ten to forty-nine days, cleared up with methenamine, presumably in conjunction with active diuresis. These six cases of chronic pyelitis of durations varying from one to ten years cleared up completely after the treatment was changed to methenamine in periods varying from three days to three weeks. Helmholz attributes this result solely to the action of methenamine and infers that, in his experience, it is not unusual, since a similar series of cases in which preliminary treatment with hexylresorcinol had not been given cleared up quite as readily. No details of these control cases are given. The dosage employed in the six successful cases is not given, and no mention is made as to whether or not in any of these cases the patients had received ineffectual courses of methenamine before coming under his observation. Since it is common clinical experience that a large percentage of cases of chronic pyelitis of years' duration do not ordinarily clear up with such amazing rapidity, and since those who have investigated the factors influencing the therapeutic activity of methenamine insist that it is of little or no value at the kidney level, it appears to be necessary to seek a more satisfactory explanation of these results. A very simple and logical explanation based on experiments recently completed in this laboratory is already on record in the literature.[15] The following case was one which suggested the investigation:

> A woman, aged 26, after a very severe forceps delivery, developed bilateral pyelitis which failed to clear up after a course of methenamine and two treatments of mercurochrome-220 soluble intravenously. After sixty days on hexylresorcinol in doses up to 0.45 Gm. thrice daily, the urine was still loaded with pus and showed a pure culture of *B. coli*. Hexylresorcinol was discontinued, and 40 grains (2.6 Gm.) of methenamine substituted. Within forty-eight hours the urine was entirely clear.[9]

In the experiments undertaken, three strains of *B. coli* were grown in the presence of minute concentrations of hexylresorcinol for several weeks, and the resistance of each of these strains to the bactericidal action of formaldehyde was compared before and after this treatment. In each instance a large increase in the sensitiveness of these strains to formaldehyde occurred. The reverse experiment, in which the original strains were grown in substerilizing concentrations of formaldehyde, gave negative results since their sensitiveness to hexylresorcinol was not increased by this treatment. Based on these experiments and others of a similar nature, together with the clinical observation recorded above, the suggestion was made that in chronic urinary infections which had resisted treatment with hexylresorcinol the offending organism might have developed a greatly increased sensitiveness to the action of formaldehyde and that large doses of methenamine should be substituted. Previous failure with methenamine bears no relationship to the drug rotation suggested under these circumstances.

Helmholz' observations appear to offer striking clinical corroboration of the deductions drawn from these experiments.

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15. Feirer, W. A.; Meader, P. D., and Leonard, Veader: J. Urol. 16:97 (Aug.) 1926.

THE CONTROL OF HYPERTHYROIDISM BY THYROIDECTOMY

RESULTS IN ONE HUNDRED CASES *

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Diversity of opinion exists as to the value of thyroidectomy for the control of severe hyperthyroidism. There is confusion as to the risk encountered, the objective to be attained, and the final results that may be expected. In my experience bed rest, drugs and radiotherapy have proved inadequate and uncertain as compared with thyroidectomy, particularly since the more extensive removal of the gland has become customary. The almost uniformly beneficial results obtained by means of the resection of all but a small portion of the thyroid tissue are in marked contrast to the indifferent or poor results formerly observed with other measures, including less radical surgical attack. It is a matter of surprise, therefore, to find that other experienced clinicians fail to get similar satisfactory results from surgery and question the permanence of control. One does not contemplate the removal of such a large portion of so important an organ as the thyroid gland without concern as to the final effect on the health of these patients. To satisfy ourselves concerning such questions as have been raised we decided to recall for careful examination 100 patients on whom thyroidectomies had been performed six months or more previously.

The type of operation performed in the Wesley Memorial Hospital [1] is radical, a so-called maximal subtotal thyroidectomy. Ligations and the less radical removal of portions of the thyroid have been discarded. The evolution of this type of operation has been gradual. As years went on the surgeons, supported by the internists, dared to remove more and more of the substance of the gland. They were encouraged by the clinical observations that postoperative toxic reactions were less frequent and that control of hyperthyroidism was more certain with the more extensive removal of the gland. Approximately 2 to 3 Gm. of thyroid tissue near the lower poles, together with varying portions of the posterior capsule, are now retained for regeneration and for the protection of the inferior parathyroids. When this objective was attained after preliminary iodine medication, complete and apparently permanent clinical control of hyperthyroidism occurred

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* A preliminary report of this study was presented before the Association of American Physicians, May 5, 1926 (Tr. A. Am. Phys. 41:93, 1926).

1. In the cases reported, operations were performed by Drs. Allen B. Kanavel, Harry M. Richter and Sumner L. Koch.

in practically all our cases. Recurrences indicate that a maximal subtotal removal has not actually been accomplished.

This study, begun in the fall of 1925, has continued to the present time. Only such patients with hyperthyroidism as apply to a general hospital for treatment, mostly severely toxic cases, are included. It was not possible to recall patients who had been operated on consecutively. The group examined contained many of the more severe cases and those concerning which most difficulty was experienced. All patients had been operated on from six months to six years prior to the examination. Sixty-seven had been operated on from one-half to two years, and thirty-three from two to six years, previously. Both the exophthalmic and adenomatous types of hyperthyroidism are included. A distinction between these types is of clinical value, but a fundamental difference was not assumed. Sixty-two cases were of the exophthalmic type, thirty-two were adenomatous and six were of doubtful clinical classification. Forty-nine patients were operated on from 1919 to 1924, inclusive, thirty-five in 1925 and sixteen in 1926. Eighty-three had been treated previously, forty-four with iodine, twenty with radiation and nineteen by operation. Fifty-nine had had hyperthyroidism for one year or less, and forty-one for from one to thirteen years.

EFFECT OF IODINE AND BED REST

All of the 100 patients were kept in bed for varying periods prior to operation. Thirty-one early cases did not receive preliminary iodine medication. Sixty-nine received iodine as a preoperative measure; in fifty-five the records are complete and permit accurate conclusions (table 1). Of the latter, fifty showed a definite reduction in intoxication, four a slight improvement and one no change; no case was apparently made worse by the use of this drug. The general clinical improvement seemed to parallel the drop in basal metabolic rate, and no essential difference was noted in the response of the exophthalmic and the adenomatous types. Twelve cases, clinically of the adenomatous type, with the diagnosis confirmed by histologic sections, showed a drop in basal metabolic rate. In ten it dropped more than 25 per cent; in six of these there was a decrease of more than 50 per cent (table 2).

TABLE 1.—*Effect of Iodine and Bed Rest on Basal Metabolic Rate*

Fifty-five cases of hyperthyroidism (all types) in which a sufficient number of determinations has been made to warrant conclusions	
No change in basal metabolic rate	1 case
Decrease in basal metabolic rate	54 cases
1 to 25% decrease	4 cases
26 to 50% decrease	22 cases
51 to 75% decrease	18 cases
75 to 100% decrease	10 cases

TABLE 2.—*Effect of Iodine and Bed Rest on Toxic Adenomatous Goiter*

Twelve cases in which diagnosis was confirmed histologically; sections did not show hyperplasia	
1 to 25% decrease in basal metabolic rate	2 cases
26 to 50% decrease in basal metabolic rate	4 cases
51 to 75% decrease in basal metabolic rate	5 cases
76 to 100% decrease in basal metabolic rate	1 case

ANALYSIS OF OBSERVATIONS AT EXAMINATION

All of the 100 patients were able to resume their former occupations and seventy considered themselves perfectly well; in all save nine the metabolic rate was considered within normal limits. Fifty-two patients, however, showed evidence of definite visceral injury on critical physical examination, forty-one as the result of hyperthyroidism, five as a direct result of operative intervention and six interpreted as due to other pathologic conditions (tables 3 and 4). It is significant that in only forty-eight patients was it impossible to demonstrate residual injury. This would indicate that hyperthyroidism which persists for any length of time produces permanent tissue injury in a large proportion of the cases. Four patients were considered to have a persisting but not disabling hyperthyroidism of some degree at the time of examination. Five patients had metabolic rates definitely below normal but on thyroid extract did not show symptoms of hypothyroidism. Most of the patients gained weight following the operation but in only one instance was obesity considered as a disability. In twenty-eight patients who did not show signs of residual pathologic changes, and who had been in good health for several years following thyroidectomy, metabolic rates were not obtained after the operation. Of the seventy-two cases in which postoperative metabolic rates were taken, fifty were within normal range; thirteen were + 10 per cent or above (nine considered clinically normal); nine were — 10 per cent or lower (four considered clinically normal).

TABLE 3.—*Present Status of One Hundred Hyperthyroid Patients from Six Months to Six Years After Thyroidectory as Determined by Critical Physical Examination*

Thyroid Status	Patients
Normal	87
Basal metabolic rate above +10% (4 considered hyperthyroid)	5
Basal metabolic rate below —10% (5 taking thyroid extract)	8
Weight (records complete in 91 cases)	
Gain (average 26.8 pounds)	86
Loss (average 10.4 pounds)	5
Significant Visceral Injury	
None demonstrated	48
Present	52
Result of hyperthyroidism	41
Result of operative intervention	8
Other damage, probably unrelated	6

TABLE 4.—*Distribution of Injury Found in Fifty-Two Patients*

Interpreted as due to hyperthyroidism:	
Cardiovascular	40
Nervous-mental	14
Weakness	5
Persistent hyperthyroidism (1 significant)	5
Result of operative intervention:	
Vocal cord paralysis	2
Tetany	1
Hypothyroid	5
Other pathologic conditions discovered:	
Focal infection	3
Diabetes	1
Pulmonary tuberculosis	1
Nephritis of pregnancy	1
Menopause	2
Nephritis with hypertension	1
Rheumatic heart lesion	1
Overweight	1
Diarrhea	1
(21 patients showed a suggestion of exophthalmos)	

Fourteen patients with exophthalmic goiters were operated on within three months of the onset of symptoms (table 5). All are considered to be in a normal thyroid state, with basal metabolic rates ranging from +13 per cent to —13.1 per cent. In eleven no visceral harm could be detected; in two, injury due to former hyperthyroidism, and in one, injury believed to be due to gross focal infection (oral and tonsillar), was found.

Laryngeal nerve injury was noted in nine patients. In six the disability was temporary with final complete

recovery. In one case the injury was present prior to operation; in two postoperative injury has persisted. Of the latter, one retains a husky voice, and one with permanent bilateral paralysis complains of occasional choking spells.

Evidence of postoperative tetany was temporary and insignificant in four patients during convalescence. It persisted and was demonstrable in one patient at the time of examination. In this patient the symptoms (cramping) were ameliorated by the administration of calcium.

TABLE 5.—*Present Status of Fourteen Hyperthyroid Patients Operated on Within Three Months of Onset of Symptoms*

Thyroid status considered normal..... (Extremes of basal metabolic rate +13 and —13.1%)	14
Residual injury:	
None demonstrated	11
Visceral injury result of hyperthyroidism.....	2
Focal infection	1

REOPERATION FOR REMOVAL OF THYROID REMNANTS

Ten patients had had previous thyroid operations in other hospitals. Six patients on my service who had had thyroidectomies performed during the past ten years have been operated on again for the removal of thyroid remnants. Five of these were operated on two times; one patient had four operations. Special consideration of these cases seems desirable:

CASE 1.—A girl, aged 12 years, admitted, October, 1920, had had exophthalmic goiter for six months with a metabolic rate on admission of + 58 per cent. It was decided to try roentgen-ray treatment on account of her age. Two successive series of roentgen-ray treatments were given with but little influence on the hyperthyroidism. Three months later a subtotal operation was done, but on account of the age of the patient the surgeon hesitated to do a very radical operation and considerable thyroid tissue was allowed to remain. The hyperthyroidism was only partially controlled. Five years later the metabolic rate rose from + 26 per cent in March to + 52 per cent in October, 1925. A radical subtotal thyroidectomy was then done. Following this operation the basal rate fell to —24.6 per cent without symptoms of hypothyroidism. It has been necessary to administer thyroid extract to maintain a normal metabolic rate since then, but the patient continues apparently healthy without complaint and is following her usual occupation. She shows, however, evident injury on physical examination.

CASE 2.—A railroad engineer with severe hyperthyroidism of seven years' duration, with much cardiac damage including fibrillation, and a basal metabolic rate of + 60 per cent, had the first operation in August, 1921. Convalescence was satisfactory until an acutely abscessed tooth and somewhat later an acute tonsillitis seemed to set off a hyperthyroidism as severe as before. A tonsillectomy was performed, and one month later (July, 1922), a second thyroidectomy. A large thyroid remnant located deep in the neck was removed. Following the second operation the basal metabolic rate dropped to —2 per cent; since then it has continued within normal limits. He returned to work within three months and has continued well in spite of evident myocardial injury, after seven years of more or less continuous invalidism.

CASE 3.—A truck driver, aged 38, with severe exophthalmic goiter (basal metabolic rate + 82 per cent), who had glycosuria and chronic oral and tonsillar infection, was operated on, June 11, 1925. Tonsillectomy and extraction of infected teeth was then done, but hyperthyroidism persisted (basal metabolic rate + 30 per cent). April 30, 1926, a second operation for the removal of thyroid remnants satisfactorily controlled the hyperthyroidism (basal metabolic rate + 12 per cent). He has resumed his work and considers himself well, although on examination he shows evidence, chiefly cardiac, of considerable residual damage.

CASE 4.—A laborer, aged 39, with severe exophthalmic goiter of nineteen months' duration, had a large vascular gland and a basal metabolic rate of + 132 per cent. Operative difficulty due to hemorrhage was encountered on three occasions. A lobectomy, a ligation of thyroid tissue *en masse*, a thyroidectomy and finally an operation for thyroid remnants were done over a period of nine months before a satisfactory thyroid status resulted (basal metabolic rate + 1 per cent). Under stress of financial and family worries and the excessive use of tobacco he appeared, nineteen months after operation, still hyperthyroid with nervous symptoms and a metabolic rate of + 18 per cent. He was instructed to discontinue the use of tobacco and to stop worrying; iodine was administered in small doses (three drops of compound solution of iodine, three times daily). In four weeks the rate dropped to + 3.5 per cent; he appeared normal and had returned to work.

CASE 5.—A farmer, aged 44, was admitted, Sept. 1, 1924, with severe exophthalmic goiter of eighteen months' standing; the basal metabolic rate was + 88 per cent, and the heart was fibrillating. On bed rest and iodine the rate dropped to + 30 per cent, September 30. A double ligation was done, October 11, and a subtotal thyroidectomy, November 1. Improvement did not result, fibrillation continued, and the metabolic rate remained high—from + 60 to + 70 per cent. December 13, a third operation, for thyroid remnants, was performed, and two large pieces of recently enlarged thyroid tissue (each the size of a walnut) were removed. Symptoms disappeared; the basal metabolic rate dropped to + 16 per cent, and normal cardiac mechanism was established. The patient has continued well during the twenty-eight months after leaving the hospital. Normal cardiac mechanism continues, and there is no physical or roentgen-ray evidence of cardiac injury. The basal metabolic rate is now +1.2 per cent.

CASE 6.—A woman, aged 24, a stenographer, on whom a subtotal thyroidectomy was done in 1916 for exophthalmic goiter of six months' duration, regained vigorous health until 1921, when a return of symptoms, principally nervousness, tachycardia and loss of weight occurred, only partially controlled by iodine. By 1924 the symptoms were marked; the basal metabolic rate was + 34 per cent. A second operation was performed and large thyroid remnants were removed. A hyperthyroid crisis and recurrent laryngeal paralysis ensued; the former was relieved by iodine and drainage of wound secretion; the latter was temporary. The symptoms disappeared, and the basal metabolic rate dropped to + 2 per cent one month following the operation. A year later the patient considered herself to be perfectly well. Twenty-five months after the second operation, evidence of injury could not be demonstrated.

It is interesting to note that all six of the cases in which multiple operations for the removal of thyroid remnants were necessary were of the exophthalmic type with markedly hyperplastic and vascular glands. At the present time, twelve, twelve, seventeen, twenty-eight, forty-five and twenty-five months, respectively, following discharge from the hospital, all these patients are working at their usual occupations, four with normal metabolic rates, one with a low rate (— 24 per cent) but maintained normal with the administration of thyroid extract and one with a rate above normal (+ 18 per cent) but controlled (now + 3 per cent) by the continued administration of small amounts of iodine. Of these six patients, five considered themselves normal and were able to work within three, three, twelve, twenty-four and twelve months, respectively; one patient, nineteen months after the last operation, does not yet feel normal, although he is able to work. Four show physical evidence of injury due to the previous hyperthyroidism, and two show normal physical conditions throughout.

PATIENTS' ESTIMATE

Seventy of the 100 patients studied considered themselves perfectly well at the time of examination. Fifty-

eight of these were able to estimate the time it took them to regain their health; twenty-three considered themselves well after three months; twenty-one within six months, and fourteen after periods varying from one to three years. Of the thirty who did not consider themselves perfectly well, sixteen complained of cardiovascular disturbances, sixteen of nervous manifestations, eighteen of weakness, two of hyperthyroid symptoms and four of hypothyroid symptoms. Six had pathologic conditions definitely not related to the thyroid gland.

ECONOMIC STATUS

All the patients reported are carrying on their usual occupations, and it is estimated that seventy-four of them do not have any essential disability, either from the ravages of the disease or from injury as a result of the operative intervention. Twenty-six show residual injury sufficient to cause some disability.

COMMENT

It would seem from an analysis of the foregoing statistical report of the examination of 100 cases of toxic goiter treated by thyroidectomy that hyperthyroidism in any of its more severe forms is a progressively damaging disease and that its progress should be controlled by whatever means, before irreparable visceral damage has been done. That a radical subtotal thyroidectomy, when actually accomplished, will control hyperthyroidism seems evident. Such an operation will probably cure the type clinically classified as toxic adenoma but may not cure exophthalmic goiter, even though the hyperthyroidism may be under control. In case hyperthyroidism is not controlled by a subtotal thyroidectomy the assumption seems reasonable that an active thyroid remnant remains, sufficiently large to produce hyperthyroidism and maintain a metabolic rate that is above normal. Under these conditions the administration of iodine may control the hyperthyroidism; otherwise further surgical attack seems warranted.

SUMMARY

The status of 100 patients from six months to six years after thyroidectomy performed for the relief of hyperthyroidism is as follows: Seventy consider themselves perfectly well; thirty are conscious of some disability; all are carrying on their usual work. Forty-one show evidence of definite visceral injury as the result of previous hyperthyroidism. Of fourteen cases of exophthalmic goiter in which operation was performed within three months of the onset of symptoms, only one shows residual visceral damage. Four patients are considered to have persisting but not disabling hyperthyroidism insufficient to require operation. Five patients are definitely hypothyroid, and are benefited by thyroid extract. Laryngeal nerve injury occurred temporarily in six cases; in two the injury has persisted. Reoperation for thyroid remnants was necessary in six cases.

CONCLUSIONS

Hyperthyroidism is a progressively harmful condition and should be controlled early before permanent tissue injury has occurred. Subtotal thyroidectomy early in the disease effectively controls hyperthyroidism, provided a sufficient amount of the gland has been removed. If hyperthyroidism continues after such an operation, too much thyroid substance has been permitted to remain. The preoperative administration of iodine seems equally effective, at least temporarily, in toxic adenomatous and in exophthalmic goiter. Thyroidectomy, even if performed late, after a prolonged period of hyperthyroidism, is a valuable procedure, enabling most patients to return to their previous occupations even though considerable residual injury may be evident.

30 North Michigan Avenue.

Clinical Notes, Suggestions and New Instruments

TWO CASES IN WHICH DEATH FOLLOWED INSUFFLATION OF THE FALLOPIAN TUBES

G. L. MOENCH, M.D., NEW YORK

At the New York Post-Graduate Medical School and Hospital in Dr. H. D. Furniss' service we had up to May, 1927, insufflated the fallopian tubes of considerably more than 200 women without any fatality or even untoward results of any nature. Nevertheless, accidents with the insufflation test of the fallopian tubes are now and again reported in the literature,[1] and the two cases reported here, from the office of the chief medical examiner of New York City, give the necropsy results in two women who died directly following such insufflation. In both instances I was assured by the physician to whom this unfortunate accident occurred that he had insufflated numerous patients before, had previously never seen any untoward results, and had carried out the procedure in this fatally ending case in exactly the same manner as always. A pressure of 220 mm. of mercury was not exceeded in either case.

REPORT OF CASES

CASE 1.—E. J., a white married woman, aged 36, applied for medical attention because of menorrhagia during the past year and sterility for the past twelve years. Gynecologic examination revealed an old amputation of the cervix with moderate stenosis of the cervical os, and a slightly enlarged uterus with several rather small fibromyomas. An old healed median laparotomy scar below the umbilicus, from a previous appendectomy, was also present.

A gas insufflation of the tubes was done and the tubes were found closed. Following the gas test a dilation of the cervix and a curettage were performed under light ether anesthesia, during which the patient suddenly collapsed and died in a few minutes on the operating table without any apparent cause, since heart, lungs and kidneys had been found surgically competent before the woman went on the operating table.

The necropsy, done a few hours after death and while the organs of the body were still warm, revealed old right sided pleuritic adhesions but otherwise normal lungs. There were also some old omental adhesions to the laparotomy scar. The heart was normal except that the right heart contained numerous gas bubbles, which were present also in the inferior vena cava. The right femoral vein was opened and also contained gas. The genital organs were as described in the physical observations made during life, but in addition both tubes were found bound down by adhesions and closed. The right tube contained blood and gas bubbles. The right ovary presented a small corpus luteum; the left one, a small cyst. The appendix was missing. The rest of the autopsy was unimportant. There was no general congestion of the organs such as is found in cases in which death is due to the anesthetic.

The anatomic diagnosis was: Old healed laparotomy scar from previous appendectomy. Omental adhesions. Old right sided pleuritic adhesions. Abundant gas bubbles in right heart and inferior vena cava, and right femoral vein. Healed

1. References to some of these are given in a previous article: Moench, G. L.: Some Experiences with Gas Insufflation of the Fallopian Tubes, J. A. M. A. **84**: 1802 (June 13) 1925. Kern, R. A.: Paroxysmal Tachycardia Following the Use of Air in Testing Fallopian Tube Patency, ibid. **86**: 623 (Feb. 27) 1926.

amputation of the cervix. Fibromyomas of the uterus. Perimetritis. Closed fallopian tubes. Blood and gas in right fallopian tube.

The cause of death was air embolus following gas insufflation of fallopian tubes and dilation of cervix and curettage.

CASE 2.—L. M., a colored woman, aged 31, sought medical attention because she had never become pregnant during five years of married life. The patient was well nourished; the heart and lungs were normal; the gynecologic examination was essentially negative. An insufflation of the fallopian tubes was done in the usual manner except that oxygen was used instead of carbon dioxide. The gas flowed only when a pressure of nearly 200 mm. of mercury was reached. Following the flow of gas, the patient suddenly collapsed and died in a few minutes. The attending physician in this case wrote a death certificate which was, however, rejected by the board of health. As a result the necropsy was performed after the deceased had been embalmed. The undertaker stated, however, that the embalming had been done only through the right brachial artery, the thorax and abdomen having been left undisturbed. The necropsy corroborated this, as no puncture marks were found in the abdominal wall or in the peritoneum.

When the abdomen was opened an escape of gas occurred and the cavity was found filled with turbid yellowish fluid. One loop of the small intestine in the pelvis showed one small tear. The rectum and the anal canal were natural. The vagina was normal and did not show puncture marks. The cervix presented a round external os with several nabothian follicles. On the anterior cervical lip there was a puncture mark 1 mm. in diameter, apparently from volsella. The fallopian tubes appeared free and fairly normal, but there were delicate fibrous adhesions between the uterus and the rectum. On the posterior surface of the uterus a small red spot, not presenting a track, was found. The ovaries were somewhat sclerotic. The veins on the posterior surface of the left ventricle contained some gas bubbles. The rest of the necropsy was negative except for slight pulmonary congestion.

The anatomic diagnosis was: Slight pulmonary congestion. Gas in veins of heart, gas in abdomen. Perforation of small intestine. Perforation of uterus (?).

The cause of death was postoperative surgical shock following oxygen insufflation of the fallopian tubes.

COMMENT

In evaluating the necropsy observations made on these two women, one encounters few difficulties as far as the first case is concerned. There can be no doubt that death was caused by an air embolus and it also seems very probable that this condition was produced by the opening of the blood spaces during the curettage. The case is a definite warning that a gas insufflation of the tubes must not be directly followed by any operative procedure.

In the second case likewise there is no doubt that the tubal insufflation caused the death of the patient, although the exact mechanism that produced this fatality is rather open to question. It seems unlikely that a uterine perforation took place, as the cannula used in the gas insufflation test, being of rather large caliber, would leave a definite track. No such track, however, was discernible by postmortem examination. Since adhesions were present between the rectum and the uterus, and since the gas started to flow only at a high pressure, it may be possible that the fallopian tubes were originally closed and adherent to the intestine and to the red spot found on the posterior surface of the uterus and were torn loose by the gas pressure, causing at the same time a laceration of the intestine. Under the circumstances described, the intestinal lesion must have occurred before death. Another possibility which must be considered is that more gas than was recognized was passed into the abdomen, and that this caused excessive pressure, shock and death. As far as the gas in the veins of the heart is concerned, I believe we must let its origin remain in doubt. It may have been the result of the insufflation test but, on the other hand, may also represent air introduced through the brachial artery in the process of embalming the body.

The two cases simply show that the dangers of the gas insufflation of the tubes should not be underestimated. The indications for the test should be limited and well defined, the necessary precautions should be scrupulously observed, and the other simpler and more harmless methods of examination should first be thoroughly tried out.

30 East Fifty-Eighth Street.

THE ANATOXIC EFFECT OF BILE ON TYPHOSUS CULTURES

G. E. PANGALOS, M.D., ATHENS, GREECE

Dr. Vincent, twenty years ago, pointed out that bile has an anatoxic effect on the germs of the intestinal flora, and by some recent experiments he proved that there were some albumins on which bile had a special effect, and called them the cryptotoxins. Ramon, Berthelot, Grasset and Miss Amoureux have studied the effect of bile on different toxins and fungi (tetanus, colon bacillus, dysentery and anthrax). It is understood that bile composed of lipoids, soap, fat and pigments has a colloid substance. It would be more interesting to study the effect of bile on germs for which it is a favorable culture medium: I mean the typhosus and paratyphosus groups.

For that purpose I performed the following experiments:

1. Five cubic centimeters of a broth culture of *B. typhosus* injected into the peritoneal cavity of a rabbit weighing 750 Gm. killed the animal in twelve hours, and at the postmortem, the same germ was found in the peritoneum and in the blood taken from the heart.

2. Another culture of the same germ made on broth containing 25 per cent of bile as rich in germs as the previous culture, injected in the peritoneum of a second rabbit of the same weight, had no effect on its life. If four days afterward the same rabbit is injected with a culture of Eberth's bacillus made on simple broth, the animal dies. This shows that in four days the animal has no time to develop the necessary immune bodies against the typhoid germ.

3. If, on the contrary, a rabbit weighing 1,500 Gm. is injected with 6 cc. of the Eberth culture in bile broth medium, eight days old, and then ten days afterward the rabbit is injected with a culture of Eberth's bacillus in simple broth, the second injection does not have any effect on the animal, showing that it was immune by this time from the previous inoculation.

From the foregoing facts I came to the conclusion that bile had a marked anatoxic effect on the culture of *B. typhosus*, although bile itself is not an antiseptic, nor has it any lytic effect on these germs.

The biologic effect of these facts is very important, for bile constitutes a previous element for preparing typhoid vaccines and it can be hoped that by the same way it will be possible to obtain atoxic cultures, so that the germs can be used alive for the vaccinations.

18 Beranger Street.

It Is Natural for a Child to Possess Evil Impulses.—Do not expect from a child any great amount of moral goodness. During early years every civilized man passes through that phase of character exhibited by the barbarous race from which he descended. As the child's features—flat nose, forward-opening nostrils, large lips, wide-apart eyes, absent frontal sinus, etc.—resemble for a time those of the savage, so, too, do his instincts. Hence the tendencies to cruelty, to thieving, to lying so general among children—tendencies which, even without the aid of discipline, will become more or less modified just as the features do. The popular idea that children are "innocent," while it is true with respect to evil knowledge, is totally false with respect to evil impulses, as half an hour's observation in the nursery will prove to any one. Boys when left to themselves, as at public schools, treat each other more brutally than men do; and were they left to themselves at an earlier age their brutality would be still more conspicuous.—Spencer: Essays on Education, pp. 108-109.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, AUGUST 13, 1927

LIVER EXTRACTS IN ANEMIA

The striking effect of feeding liver and certain preparations of liver on a number of physiologic processes has been established through experimental investigation. In the case of growing animals it appears, according to the observations of Osborne and Mendel, to promote rapid gains in size. Whipple[1] and his associates at the University of Rochester have demonstrated the extraordinary effect of diets including liver on severe anemias of long standing in dogs. The vigorous regeneration of hemoglobin and red blood cells can be brought about by feeding the hepatic tissue of various species, beef, pig, sheep, calf and chicken having been tested with unquestionable success.

The striking positive results achieved in the treatment of human cases of pernicious anemia by Minot and Murphy[2] with diets containing large amounts of liver in one form or another have been hailed almost as a panacea for a heretofore decidedly intractable disease. According to these investigators, during a relapse in the malady the ingestion of liver appears to cause the rapid maturation of the megaloblasts crowding the bone marrow. They report the response to the feeding of liver to be reflected in the peripheral blood by a temporary increase in the number of reticulated red blood corpuscles, followed by a marked rise in the total number of erythrocytes and in the concentration of hemoglobin. The quantity of liver apparently requisite for good therapeutic effects is not inconsiderable. As a result, the prolonged administration of this item of the diet has proved to be decidedly unappealing if not actually objectionable to many patients. This circumstance alone would warrant the search for the effective liver component in the hope of being able to supply the concentrate or relieve the monotony of the enforced regimen. Furthermore, there is naturally a large scientific interest in discovering the "active principle" quite aside from such practical considerations. It is fortunate, therefore, that at the Harvard Medical School Cohn[3] and his collaborators have succeeded in fractioning liver extracts so as to secure potent concentrates. The effective substances are free from lecithin and ordinary lipoids, and they contain at most only traces of protein, sulphur or iron. The latter element cannot, therefore, account for the hematopoietic action of liver. The details of the preparation of concentrates that suffice in daily doses of a few grams at most to show good therapeutic effects in pernicious anemia represent the application of modern cell chemistry. The biochemists will probably succeed before long in the isolation of chemically individual substances that represent the responsible constituent.

As Whipple and Robscheit-Robbins[4] have contended, the outcome of these studies suggests that pernicious anemia represents essentially a faulty blood construction rather than an increased disintegration of blood factors. Perhaps, they urge, this disease is a real deficiency disorder in which material for the construction of the stroma of the red blood cells is wanting.

1. Whipple, G. H.; Robscheit-Robbins, F. S., and Hooper, C. W.: Am. J. Physiol. 53: 236 (Sept.) 1920. Robscheit-Robbins, F. S., and Whipple, G. H.: Ibid. 72: 408 (May) 1925.
2. Minot, G. R., and Murphy, W. P.: Treatment of Pernicious Anemia by a Special Diet, J. A. M. A. 87: 470 (Aug. 14) 1926.
3. Cohn, E. J.; Minot, G. R.; Fulton, J. F.; Ulrichs, H. F.; Sargent, F. C.; Weare, J. H., and Murphy, W. P.: The Nature of the Material in Liver Effective in Pernicious Anemia: I, J. Biol. Chem. 74: lxix (July) 1927.
4. Whipple, G. H., and Robscheit-Robbins, F. S.: Simple Experimental Anemia and Liver Extracts, Proc. Soc. Exper. Biol. & Med. 24: 860 (June) 1927.

ALBRECHT KOSSEL

The death of Dr. Albrecht Kossel, long professor of physiology in the University of Heidelberg, at the age of 74, serves to recall his services and his distinguished contributions to the science of physiologic chemistry. Kossel was one of the most talented pupils of Hoppe-Seyler, from whom he evidently received not a little directive inspiration. For many years Kossel served in charge of the chemical laboratory of the large physiologic institute at the University of Berlin, from which he was called to Marburg and finally to Heidelberg. After the death of Hoppe-Seyler in 1895, he became an editor of the *Zeitschrift für physiologische Chemie,* along with Eugen Baumann, succeeding to complete editorial charge on the death of the latter not long thereafter. This journal, a pioneer in its special field, contributed in no small measure to give physiologic chemistry—or biochemistry, as it is now commonly designated—a position of academic independence at a time when there was reluctance to permit the divorce from physiology either in the direction of professional appointments or in the field of independent scientific publication.

Kossel's reputation will most probably rest on his contributions to our knowledge of the chemical nature of the proteins and the nucleic acids. His studies were directed toward the very fundaments of the chemistry of the cell when he devoted his energies to unraveling the complexities of the nucleus. To him we owe in large measure the more intelligent appreciation of the significance of the so-called purine substances in physi-

ology and their participation in the make-up of the nucleic acids. Thus the true origin of uric acids from the purines in metabolism was brought to light. The pyrimidine "building stones" of the nucleic acids also received their earliest recognition from Kossel. These various classic researches dealing so successfully with the chemical basis of life won for him one of the early awards of the Nobel prize.

In the domain of protein chemistry Kossel has laid the foundations for some of our current conceptions. Here he specialized in what were long termed, in harmony with his suggestion, the hexone bases. Among these arginine and histidine—the latter his discovery—long engrossed his attention. The enzyme arginase, whereby arginine is converted to urea, was first described from Kossel's laboratory. Biochemical technic owes much to his skill and the contributions of his pupils. Of late, Kossel served as director of an institute for the investigation of the proteins, a post created for him after his retirement from the professorship of physiology. Kossel's decease, July 5, brings a termination to a career unusually fruitful for the sciences on which medicine rests. The *Zeitschrift*, so long edited by him, bears witness to his devotion to the science that he helped to establish on an independent footing.

IMMUNITY FROM TUBERCULOSIS

A recent writer,[1] himself a competent investigator in the field of tuberculosis, has justified the prevailing skepticism and apathy toward new studies on the problems of immunity in this disease for the reason that many claims in the past, when subjected to a rigid test, failed to meet all the requirements. Despite this attitude there has by no means been an entire lack of interest in the possibilities of prophylactic immunization. The evidence for a widespread occurrence of infection with an apparently low death rate gives strong substantiation of the development of a natural resistance to tuberculosis; this in turn justifies the hope of securing added protection through the artificial stimulation of the protective mechanism.

The procedures for attempting this have involved for the most part the use of tubercle bacilli in one form or another. Theoretically, artificial immunization with living virulent micro-organisms is a logical method. It has, indeed, been applied with some success in carefully controlled instances. As the focus with living organisms must persist for the continuance of satisfactory immunity, the situation involves a potential danger that cannot be disregarded. As Petroff [1] has remarked, however effective the procedure is, the compensation paid for such an immunity is expensive; indeed, it is an actual infection.

Vaccination with avirulent organisms is a safer procedure. It has received unusual consideration as a result of the studies of Calmette and his co-workers at the Pasteur Institute in Paris. These have recently been reviewed in some detail in THE JOURNAL,[2] which cautioned against uncontrolled enthusiasm despite the promising possibilities that have been portrayed by the distinguished French workers. Petroff regards vaccination of this sort as a safer procedure than vaccination with virulent organisms. However, he insists that it is not known what may happen to the latter after they have been passed through the body several times. He therefore champions the use of dead tubercle bacilli for studies in immunization. There is less danger in using such material, and the immunity established is said to be more than partial. At any rate, the laboratory experiments lead Petroff to the conclusion that "dead tubercle bacilli or some of their derivatives can be used safely and effectively in immunizing the human race." Every one concerned with the difficult problems of preventive medicine in tuberculosis may feel assured that the possibilities of satisfactory practical protection have by no means been exhausted.

1. Petroff, S. A.: Immunity in Tuberculosis, J. A. M. A. 89: 285 (July 23) 1927.

THYMIC SYMPTOMS

The functions of the lymphoid organ known as the thymus, like those of the spleen, may properly be said to remain for the most part shrouded in mystery. The one well established fact with regard to the thymus is that it undergoes involution after the age of puberty and may even disappear in the adult. Conjectures regarding its possible action as a gland of internal secretion are based on extremely indirect evidence. The chaotic condition of the literature regarding the organ is indicated by the remark of a recent writer who asserted that each concept advanced as to its origin, function, growth and possible pathologic significance has immediately been challenged. Extirpation experiments, which have given so much valuable testimony with respect to the physiologic uses of such organs as the pancreas and the kidneys, have failed thus far to offer any dependable clues to investigators.

Strangely enough, despite all this indefiniteness and uncertainty certain striking abnormalities of considerable clinical significance have been described as thymic symptoms. The expression "status thymicolymphaticus" has found acceptance in describing—and indirectly attempting to explain—certain conditions sometimes ending in death. Status lymphaticus is regarded as "a constitutional state of infancy, or as the normal infantile lymphoid status retained after puberty, with or without a narrowed aorta, or as a state occurring at any age."

Apart from constitutional weaknesses that may lead to death in these somewhat indefinable ways through causes that would be of insignificant effect on normal persons, there is the possibility of harmful mechanical

2. Vaccination of the New-Born Against Tuberculosis with Bacillus Calmette Guérin, editorial, J. A. M. A. 89: 115 (July 9) 1927.

effects of the thymus. The "mors thymica," or thymic death, due to mechanical compression of the trachea and other strictures, is an anatomic possibility. According to carefully kept records at the University of Minnesota Medical School,[1] thymic symptoms may be produced during the first year of life by mechanical pressure of a normal gland on mediastinal structures, especially on the recurrent laryngeal nerve. There was, however, no case giving any indication that pressure by the thymus on the trachea caused death.

According to Boyd,[1] inadequate understanding of the natural changes in the condition of the thymus from time to time in different persons is responsible for much misconception about the so-called status thymicolymphaticus in particular. The growth curve of the thymus in a well nourished child is of the same type as that of the lymphoid tissues in general. Fluctuations in the weight of the thymus at any age period are concomitant with fluctuations in body weight. Some illnesses may, however, affect the thymus before they show an influence on the general state of the body's nutrition. Accidental involution also may occur, as well as the age involution beginning at puberty. The size and structure of the thymus present large factors of uncertainty in any attempt to base diagnostic statements on them. The concepts of "lymphatic constitution" unquestionably need considerable revision, with abandonment of many obscure views.

1. Boyd, Edith: Growth of the Thymus: Its Relation to Status Thymicolymphaticus and Thymic Symptoms, Am. J. Dis. Child. **33**: 867 (June) 1927.

2. Hall, W. W., and Wakefield, E. G.: A Study of Experimental Heat-Stroke, J. A. M. A. **89**: 177 (July 16) 1927.

Current Comment

HEAT-STROKE

It is not difficult to understand why so few dependable facts have been acquired with respect to heat injuries of the type represented by so-called heat-stroke. The malady either is acutely fatal or experiences a rapid release from the imminent danger, so that the opportunity for securing data regarding the chemical pathologic changes, in particular, is correspondingly limited. In the major heat-stroke that is attended with thermic fever there are often evidences of renal injury that may persist for some time. Destruction of protein, incident to the raised temperature of the body, increased metabolism and tissue injury might be anticipated from any febrile reaction of a pronounced sort. Years ago it was first announced that the blood of persons suffering from heat-stroke of a severe type shows an acid reaction. The real significance of this observation, made before the introduction of modern methods and technic in blood analysis, was indicated in a recent report by Hall and Wakefield.[2] Their experiments on animals indicated that the lactic acid content of the blood may reach very high levels in major heat-stroke, with increases of more than 300 per cent above the normal level. To this, some of the important acute pathologic changes are attributed, the resulting symptoms representing a true acidosis. The phenomena were characterized by an absence of ketone substances; that is, freedom from ketonic acidosis. This is a peculiarity sufficiently important to receive emphasis.

THE BILE AND PANCREATIC SECRETION

The secretions that pour into the alimentary canal are for the most part under the control of the nervous system. The effectiveness of this in regulating their flow is probably most conspicuous in the case of the salivary glands. Normal pancreatic secretion differs from the salivary output in being more dependent on chemical stimulation than on the nervous regulation. This has been realized since 1902, when Bayliss and Starling demonstrated the so-called hormone influence on secretion. It is known that the pancreas responds, by secretion, to the presence of gastric acid in the duodenum, though the specificity of the stimulation of the gland by secretin, prepared by the action of dilute acid on the mucous membranes, has been much debated. Last year Mellanby [1] suggested that bile is the alimentary stimulus of pancreatic secretion functioning by causing the elaboration and absorption of secretin. His experiments have been repeated and extended by Ivy and Lueth [2] of the Northwestern University Medical School, Chicago, who likewise find that bile stimulates pancreatic secretion. They believe, however, that it is less potent than acid of the gastric strength; and in the species studied, at least, they regard bile as an adjuvant rather than an essential alimentary stimulus of pancreatic secretion.

WATERMANSHIP VERSUS SWIMMING QUALIFICATION

The enormous death rate from accidents continues to attract widespread attention,[3] but it is not generally recognized that accidental drowning is the cause of a large portion of the total. In the navy, drowning is the most frequent cause of death and in the registration area of the United States exclusive of Hawaii about 6.5 persons per hundred thousand of population lose their lives in this way each year.[4] Such a death rate places accidental drowning in the class with the mortality from typhoid, and deaths from both causes are almost entirely preventable. Recently, R. B. Miller,[5] in an effort to reduce the likelihood of drowning in the navy, has called attention to the difference between the qualified swimmer and the experienced waterman. The initiate in watermanship acquires a "knowledge of those things over and above mechanical swimming which permits him to adjust himself to the various unfavorable conditions often encountered in emergencies he

1. Mellanby, J.: J. Physiol. **61**: 419 (June) 1926; Lancet **2**: 215 (July 31) 1926.

2. Ivy, A. C., and Lueth, H. C.: On Bile Stimulation of Pancreatic Secretion, Proc. Soc. Exp. Biol. & Med. **24**: 837 (June) 1927.

3. Eight Year Total of Automobile Deaths Enormous, J. A. M. A. **89**: 459 (Aug. 6) 1927. Accidental Deaths in July, ibid. **89**: 456 (Aug. 6) 1927.

4. Mortality Statistics, 1924, Department of Commerce, Bureau of the Census, Government Printing Office, 1927, p. 116.

5. Miller, R. B.: Some Observations on Avoidable Drowning, U. S. Nav. M. Bull. **25**: 505 (July) 1927.

meets and which gives him a discretion that enables him to avoid dangerous situations." A waterman possesses confidence but not foolhardiness; he appreciates both the buoyancy and the treacherousness of his element; he can remain afloat with little or no effort, clothed or unclothed, in rough or smooth water; he is oriented whether his head is below or above the surface; he inhales, by second nature, only when his airway is free; he expends strength only when effort will avail him; he can swim rapidly if necessary; he is relatively safe even when beset by cramps, currents or undertow, for he knows how to combat all three; he never becomes confused; panic is impossible to him. Unfortunately, acquirement of these qualities appears deceptively easy to the observer who has limited acquaintance with the water, and with the present educational emphasis on swimming qualifications it usually requires one disagreeable experience to convince the qualified swimmer that he is not a waterman. Frequently this experience is fatal. Training in watermanship rather than in mechanical swimming might decrease the number of such fatalities.

"YOUR MONEY'S WORTH"

No one group has done more to "debunk" the commercial practices of those dealing in the special merchandise of the group than has the medical profession. Furniture dealers are by no means agreed that it is in the public interest to let it be generally known that a table made of birchwood with a thin veneer of mahogany is not the "solid mahogany" of the advertisement; the gentlemen in "suits and cloaks" are far from agreeing that there is any moral defection in describing a garment of cotton and shoddy as "all-wool"; furriers still act on the principle that it is permissible to unload dyed muskrat on the public as "Hudson seal"; the manufacturers of a well known brand of soap admit privately that the slogan "99 and $^{44}/_{100}$% pure" is a slogan rather than a fact. But, for over twenty years, the organized medical profession has attempted to bring to a minimum misrepresentation and deceit in the exploitation of medicinal products. Physicians, then, as a class, will probably be more interested than any other one group in the book recently published under the title "Your Money's Worth," [1] by Stuart Chase and F. J. Schlink. Neither of the authors is a physician, but both of them have been trained to clear thinking and, what is equally evident from their book, to a lucid expression of facts. Mr. Chase, for some years on the staff of the Federal Trade Commission and at present a director of the Labor Bureau, Incorporated, is by profession a certified public accountant. Mr. Schlink, a mechanical engineer-physicist and an officer of the American Engineering Standards Committee, is fortified by an experience he had of some years on the staff of the National Bureau of Standards at Washington. "Your Money's Worth" appeared originally as a series of magazine articles, under the title "Consumers in Wonderland." The book deals not so much with adulteration of products and deceptive advertising as outstanding evils of modern merchandising as with the wastefulness of selling what are practically identical articles under various brand names and with the absence of impartial information available to the public. In a few of the industrial fields, the public is protected in its purchases by standardization worked out by the industry itself, but the ground thus covered is pitiably small. Medicine, however, has reason to feel proud of the fact that it was among the first, both in point of time and of importance, in establishing agencies whereby the public, through the profession, could be protected. In speaking of this phase of the problem, discussed by Messrs. Chase and Schlink, they say:

> Far and away the leader among the technical societies from the point of view we are considering is the American Medical Association. It is as fearless as it is explicit in the exposure of quackery. Its Council on Pharmacy and Chemistry and its Bureau of Investigation are continuously busy in the public interest. It has haled untold rascals before the bar of public opinion; broken up hundreds of shell games.

We unreservedly recommend "Your Money's Worth" as a book that is not only readable and teeming with facts, but as one that will appeal to the physician, both in his professional capacity and also as one of the great army of ultimate consumers of modern merchandise.

PSYCHOANALYSIS

Since 1894, when the freudian doctrines came conspicuously on the scientific scene, the technic, the theories and the practice of this offshoot from psychology, religion and medicine have aroused argument. Perhaps much of the disfavor with which its progress has been viewed has resulted from the practice of psychoanalysis by numerous charlatans, who should have been promptly condemned by honest scientific investigators but whose adherence to the ranks was welcomed in some instances because the battle to establish psychoanalysis as a science was apparently a losing one and any support seemed helpful. With the passing of time, every one with any knowledge of the subject is ready to admit that the contribution of Sigmund Freud has been significant and that his position in psychology is secure. It is not, however, the position assigned to him by either his friends or his enemies. The psychoanalytic methods are still on trial, perhaps because their effects seem frequently almost antisocial. The sensational phases of the subject have attracted so much lay interest that discussions appear widely in newspapers and lay periodicals. In a recent issue of *Liberty* Brenda Ueland begins what is apparently the first of a series of articles on psychoanalysis, this one called "nut crackers." Her significant conclusion is the warning that "there are scores of quasi-psychoanalysts and quacks who will take a great deal of your time and money if you will let them, and who may advise you into a bad marriage or some other mess." The author is apparently inclined to accept the opinion of William McDougall as to the present status of the freudian views and practice; namely, that many of the freudian methods are important, that conflict and repression are principal factors in the genesis of func-

1. "Your Money's Worth." By Stuart Chase and F. J. Schlink. Cloth. Price $2. Pp. 285. New York: MacMillan Company, 1927.

tional disorders, and that sexual difficulties are one of the greatest causes of disorder, but not of all disorders. On the other hand, Professor McDougall is not willing to accept the immense significance attached by the freudians to the Oedipus complex. With these reservations, Professor McDougall is quoted as saying, "I believe Professor Freud has given an immense impetus to a much needed reform in psychology and has enriched psychology with many valuable conceptions."

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

North and South Medical Golfers Meet at Del Monte.—The annual golf tournament between the northern and southern California medical golf associations will be played again this year at Del Monte, October 29-30. The southern players will leave Los Angeles on a special train, October 28, for Del Monte, for which special railroad and hotel rates have been arranged. Play will start the first day on the Del Monte course, and will be completed the following day on the Pebble Beach course. Trophies will be awarded to individuals and teams on handicap, and all play will be in team matches. The bronze plaque was won last year by the north on points. Dr. Walter V. Brem, Los Angeles, is captain of the southern team, and Dr. Paul M. Hunter, Pasadena, California amateur champion, is a member of the team.

Child Dies of Bubonic Plague.—The first fatal case of bubonic plague to occur in the United States in the last eighteen months was that of a child in Clayton, Contra Costa County, July 8. According to the report to the U. S. Public Health Service, the family in which the death occurred had been trapping ground squirrels for food. The diagnosis in this case was confirmed by the inoculation of a guinea-pig with a culture from the patient. Since this case occurred, more than 5,000 ground squirrels in Contra Costa County have been killed, and all of them were found negative for plague infection. For twenty-seven years, a campaign has been conducted by state health authorities, cooperating with the U. S. Public Health Service and the Department of Agriculture, to eradicate plague from the ground squirrels in California.

COLORADO

Graduate Course for Specialists.—The Colorado Opthalmological and the Colorado Oto-Laryngological societies presented their summer graduate course, July 18-30, for the fifth consecutive year. Sixty-three specialists from various parts of the country registered for the clinics, demonstrations and lectures. The instructors included Drs. John M. Wheeler, New York; Allen Greenwood, Boston; Harold M. Hays, New York, and George L. Richards, Fall River, Mass., who were assisted by local physicians. At the daily luncheon, questions which had been handed in by the students were discussed. Two days of the two weeks were set aside for the reading of papers sponsored by the Colorado Congress of Ophthalmology and Oto-Laryngology. One afternoon was spent motoring among the mountains. A fee of $50 was charged to cover the actual expenses of this intensive postgraduate program.

State Medical Meeting.—The fifty-seventh annual meeting of the Colorado State Medical Society will be at Glenwood Springs, September 6-8, under the presidency of Dr. George H. Curfman, Salida, with headquarters at the Hotel Colorado. The house of delegates will meet the evening of September 5. The program has been arranged so that part of each afternoon will be free for trips to the canyon and other places, and for fishing and golf. The president elect, Dr. William A. Sedwick, offers a pair of beautiful vases for the winner of the golf tournament. The president's reception and ball will be Tuesday evening; the annual banquet, Wednesday evening, and a barbecue, Thursday afternoon. Among the subjects for discussion at the sessions will be "The Rheumatic Heart" by Dr. Stewart R. Roberts, professor of clinical medicine, Emory University School of Medicine, Atlanta, Ga.; "Use of High Carbohydrate Diet in Treatment of Diabetes Mellitus," Dr. William D. Sansum, Santa Barbara, Calif.; "Surgery of Goiter," Dr. Arnold S. Jackson, Madison, Wis., and a subject to be announced later by Dr. Alfred J. Brown, assistant professor of surgery, University of Nebraska College of Medicine, Omaha. Among the Colorado physicians on the scientific program are Drs. John B. Davis, William M. Spitzer, George S. Johnson, William Walter Wasson, Lorenz W. Frank, Lumir R. Safarik and Robert G. Packard, all of Denver; Charles O. Giese and Solomon W. Schaefer, of Colorado Springs; George M. Myers, Orville B. Chandler and Atha Thomas, of Pueblo, and George H. Cattermole, of Boulder.

CONNECTICUT

Italian Diplomas Questioned.—The Connecticut Department of Health reported that the following persons apparently hold diplomas from the Italian schools indicated, which diplomas they did not secure at the school from which they claim to have graduated. The department of health has notified all medical examining boards of this fact, and will give further information if requested. These persons, who, the letter states, secured diplomas in some way from Italian medical schools, were examined by the Connecticut Eclectic Medical Examining Board and were licensed in Connecticut:

	Reported Graduated	Licensed	Last Known Address
University of Rome			
Sera, Emilio G.	1903	1905	1917—Brooklyn
Avignone, Francis T.	1902	1905	
University of Palermo			
Bentivegna, Joseph	1896	1897	Now reported deceased
Terranova, Francesco P.	1902	1906	Now reported deceased
Pittaro, Vito A.	1902	1905	New York City; reported to have lived in Stamford a short time
Cipollo, Carlo P.	1903	1905	620 West Houston Street, San Antonio, Texas
Germano, Giuseppe	1900	1904	189 Howland Avenue, Kenosha, Wis.
Grana, Giovanni	1894	1897	447 Clinton Avenue, N. Rochester, N. Y.
University of Naples			
Cennicola, Henry	1892	1894	Now reported deceased
Cenicola, Angelo	1872	1895	Now reported deceased
Tommasello, Stanley	1901	1905	260 Grand Avenue, Brooklyn
Cutolo, Edwards	1897	1905	
Grossi, Anchise	1900	1905	
Rubertone, Nicola	1903	1906	
Reno, (Sarlo) Vincenzo	1896	1906	Hudson Boulevard, Union City, N. J
DeAngelis, Alfonso	1887	1906	
Graziano, Vincenzo	1884	1905	
Cerulli, Nicola	1897	1906	
Geneva Medical College			
Marini, Enrico G.	1896	1906	
Rossi, Donato	1903	1906	
Soldani, Emanuel	1902	1906	
Biondi, Angelo F.	1893	1906	1919 address, Newark, N. J.
University of Bologna			
Lapenta, A. M. Suffi	1885	1895	Now reported deceased
Fabbri, Romo	1902	1905	354 East Main Street, Norristown, Pa.
Sollima, Edward L.	1899	1906	69 Federal Street, Portland, Maine
Abbemonte, Oreste E.	1895	1906	
Midwives who claim graduation from Italian colleges and who reside out of the state.			
University of Naples			
Maria DePamphilis	1891	1905	
Antonietta Avino	1909	1925	643 Caldwell Avenue, New York
University of Catania			
Francesca C. Vassallo	1895	1901	
University of Palermo			
Rosalia Alterisi	1905	1907	Reported retired; now resides in Illinois
Carlotta Dimonte (also Demonte)	1900	1905	233 Smith Street, Dunmore, Pa.
University of Bologna			
Lucia Cantore	1905	1906	

DISTRICT OF COLUMBIA

Washington Selected for Headquarters Building.—The American Pharmaceutical Association has selected Washington as the location of its new headquarters building, for which it has been conducting a campaign since 1924 for not less than $500,000. The fund is not only for the purpose of erecting a building, but for an endowment to provide for the activities of the association, to afford facilities for representatives of national drug trade associations and to serve the interest of pharmacy in all its branches. Among other things, there will be provision in the building for research laboratories, museum, library and offices.

Personal.—Lieut. Col. Charles F. Craig, director of laboratories, Army Medical School, was elected president of the Washington branch of the American Society of Bacteriologists in May.——Lieut. Col. Henry J. Nichols, formerly director of laboratories, Army Medical School, wrote the chapter on "Yaws" in the recent Textbook of Medicine edited by Dr. Russell L. Cecil, New York, and Capt. Joseph H. St. John, instructor in protozoology, Army Medical School, wrote the chapter on "Relapsing Fever."——The following physicians have been appointed to the staff of the Washington Sanatorium and Hospital, Takoma Park; Almon J. Balkins, Orlando, Fla.; Henry H. Hall, St. Paul, and Julian M. Howe, Washington, D. C.——Dr. William A. White, superintendent, St. Elizabeth's Hospital, will give an address during the annual meeting of the American Bar Association, Buffalo, August 30, on "Need for Cooperation Between the Medical and Legal Professions in Dealing with Crime."

FLORIDA

Hospital News.—The city of Tarpon Springs offered the fully equipped Tarpon Springs Hospital to the physicians of the city for them to run for one year, during which time the city would guarantee up to $500 a month against a deficit.——Dr. Alexander J. McRae, Miami, was made president elect of the newly organized Florida Hospital Association at Jacksonville, June 28.

Society News.—Physicians of Putnam County organized the Putnam County Medical Society, July 20, at a meeting at Palatka, electing Dr. John T. Hosey, president, and Dr. Edmund W. Warren, secretary.——Dr. Rupert H. Stovall, Fort Lauderdale, addressed the Broward County Medical Society, July 12, on "Management of Intestinal Disturbances in Bottle Fed Babies."——Dr. Leigh F. Robinson addressed the Florida East Coast Dental Society, Fort Lauderdale, July 28, on "Relation of Dental Sepsis to Systemic Disease."——At the July 27 meeting of the Palm Beach Academy of Medicine, the speakers were Drs. Ralph N. Greene and Ernest B. Milam, both of Jacksonville, and Dr. John A. Simmons, Miami, president, Florida Medical Association.——The Florida East Coast Medical Association, comprising members of the county societies from Daytona to Key West, was recently organized with Dr. William E. Van Landingham, West Palm Beach, president; Drs. Henry C. Babcock, Miami, and Leigh F. Robinson, Fort Lauderdale, vice presidents, and Dr. Roy J. Holmes, Miami, secretary-treasurer. The first meeting will be at West Palm Beach in November.

ILLINOIS

Society News.—The Peoria County Medical Society held its annual picnic, July 21, at the North Shore Country Club, Peoria. A program of sports, including golf, swimming and races, was provided. Following the basket dinner in the evening, a moving picture was presented. Prizes were given to winners of the various contests. Dr. G. Henry Mundt, Chicago, president of the state medical society, gave an address.——The Adams County Medical Society, Quincy, plans an all day meeting for November 14. Three prominent physicians will be the guests of honor.

Conference on Public Welfare.—Two days previous to the annual Illinois Conference on Public Welfare, October 17-18, courses of study will be given for social workers and others concerned with social work. There will be five courses each, consisting of four sessions and costing $3. Enrolment in each course will be limited, and no one can take more than two courses. Among the instructors will be Dr. Herman M. Adler, director, Institute for Juvenile Research, Chicago, and other instructors who are officers of various national organizations engaged in public welfare work. The subjects of the courses will be: (1) problems of admission, placement and discharge by child-caring institutions and agencies; (2) probation methods; (3) administration of mothers' pensions; (4) mental factors in social case work, and (5) fundamental principles of social case work. Inquiries should be addressed to the chairman, 848 North Dearborn Street, Chicago.

Thyroid Survey in Decatur.—With the cooperation of the Decatur Medical Society and the local school authorities, the health department of Decatur and the state department of health conducted a thyroid survey of the school children of that city. It was desired to determine the prevalence of thyroid enlargement among the school children, and to learn whether it was more prevalent in Decatur where the city water was free of iodine than it is in other places where the water supply contains iodine. The survey began, February 14 and continued for seven days, and a total of 10,055 pupils was examined. Of this number, 5,338, or 53 per cent, showed some degree of thyroid enlargement; in 36 per cent it was "very slight"; in 15 per cent "slight"; in 0.1 per cent "severe," and in 0.04 per cent "very severe." The fifth grade school children had the largest percentage of normal thyroids; the senior grade the second largest percentage of normal thyroids. The severe and very severe enlargements were most prevalent in the junior grades. The more marked enlargements, as a rule, were found in the higher grades according to Dr. William S. Keister, the former city health officer, although all grades showed a high percentage of very slight enlargements. Among the white boys and girls, who totaled 9,682, 53.2 per cent showed some degree of thyroid enlargement. Among the colored boys and girls, who totaled 373, 51.2 per cent had some degree of thyroid enlargement. Among the boys, both white and colored, who totaled 5,009, 46.5 per cent showed some degree of thyroid enlargement and among the 5,046 girls, both white and colored, 59.6 per cent showed some degree of thyroid enlargement. Dr. Keister says in the *Illinois Health News* that from these figures it appears that neither color nor sex seems to have a marked influence on the prevalence of enlarged thyroids.

Chicago

Dr. McElroy Appointed Superintendent of St. Luke's.—Dr. Jesse L. McElroy, who recently resigned as superintendent of the University Hospital, Iowa City, Iowa, has been appointed superintendent of St. Luke's Hospital, Chicago, to succeed Dr. Charles H. Pelton, who goes to Montefiore Hospital, Pittsburgh. Dr. McElroy assumed his new duties, July 15.

Typhoid in Chicago.—During the first six months of this year, there were fifty-three cases of typhoid and eight deaths, whereas in the same period last year, there were forty cases and four deaths, and in the corresponding period of 1925, 103 cases and twenty-one deaths. The Chicago Department of Health, June 30, had on record forty-six typhoid carriers in the city. The typhoid record last year was the lowest in the history of the city.

Unlicensed Practitioner Arrested.—J. B. Lescher, proprietor of the Natural Therapeutic Health Institute, 1636 West Jackson Boulevard, was arrested, July 30, it is reported, on a charge of violation of the medical practice act. Inspectors Storer and Follmer, of the state department of registration and education, are said to have discovered Lescher treating two patients for intestinal disorders. Lescher, who has no license, was locked up in the Warren Avenue police station and later released on bond. His case will be heard, August 30, before Judge Schwaba.

Promotions and Appointments at the University.—The board of trustees of the University of Chicago announce the promotion to full professorship in pathology of William H. Taliaferro, Ph.D.; to associate professorship in pathology of Maude Slye, and to associate clinical professorships at Rush Medical College of Dr. Joseph L. Baer in obstetrics and gynecology, Dr. Edward A. Oliver in dermatology, and Dr. William G. Reeder in ophthalmology. John F. Norton, Ph.D., has been appointed secretary of the department of hygiene and bacteriology, and Warder C. Allee, Ph.D., secretary of the department of zoology. Arthur H. Compton, Ph.D., professor of physics, has been granted a leave of absence from October 1 to November 10 in order that he may attend the Solday Congress.

IOWA

Personal.—Dr. Homer W. Scott has been appointed assistant professor of surgery at State University of Iowa College of Medicine, Iowa City, it is reported.——Dr. Emil C. Junger is a candidate for state representative from Monona County.——Mr. W. D. Hayes, for many years health officer of Sioux City, was elected president of the state board of health at the biennial organization meeting in Des Moines, July 20.

Society News.—One hundred and seventeen physicians and their families from about twenty-five towns held a picnic at Sunset Park, July 11, with the Four County District Medical Society acting as host. Dr. James H. O'Donoghue, Storm Lake, presided and Dr. William R. Jepson, Sioux City, the principal speaker, gave an address on progress in medical science; Judge F. F. Faville, Des Moines, gave an address on "The Work of a Doctor." The afternoon was spent in swimming, golfing, boating and fishing. This medical organization meets twice a year, but this was the first meeting of this kind to be held.

LOUISIANA

Personal.—Dr. Platt W. Covington, Salt Lake City, of the International Health Division of the Rockefeller Foundation, has been placed in charge of health rehabilitation work in Louisiana and Arkansas. ——Miss Lodilla Ambrose, New Orleans, local correspondent for THE JOURNAL, died recently; Miss Ambrose specialized in research in medical literature, and was for years a librarian at Northwestern University. ——Dr. George M. Snellings, Monroe, has been appointed a member of the state board of health from the fifth district to succeed the late Dr. Thomas E. Wright.

MASSACHUSETTS

Outpatient Department—Boston City Hospital.—This seven story building is the outpatient department of the Boston City Hospital, at East Concord Street and Harrison Avenue. Two stories were added to the old outpatient building; the interior was entirely rearranged and extensive additions were made to those parts of the old walls which were conserved. The first floor of the old building was dropped to the sidewalk level, making it possible to construct a mezzanine floor in each wing and an entrance hall which passes through the building, so that patients enter on one street and are discharged from the clinic on the other. Throughout the building, the door frames are steel, and the windows are finished with the minimum amount of wood. The building is thoroughly equipped electrically. There are three fireproof staircases and two electric passenger elevators. The large number of small rooms in the building provide as much privacy to each patient as possible. The pediatric department was placed on the first floor, so that children may be separated as quickly as possible from the other patients. Children are seen by physicians immediately on their entrance to the clinic, and if suspected of having infectious diseases are assigned to an isolation room. Every floor has a laboratory; all rooms in the heart clinic are wired to the electrocardiograph, so that one machine will suffice for the entire clinic. A central record system is used throughout the building, the records from every department being filed together. Records are delivered by carrier to the secretary's desk in the various clinic rooms, and are returned to the record room daily after the clinic is closed. The equipment of the outpatient department cost about $70,000, and the building exclusive of the site, $630,000.

MINNESOTA

All Physicians Must Register with Basic Science Board.—The secretary of the board of examiners in the basic sciences states that every physician in the state of Minnesota who desires to retain his license must register and secure a certificate from the board before Oct. 1, 1927. Applications for registration have been sent to all physicians whose names appear in the American Medical Directory under Minnesota. The secretary of the board of examiners in the basic sciences is Dr. Elexious T. Bell, 110 Anatomy Building, University of Minnesota, Minneapolis (THE JOURNAL, July 16, p. 213).

MONTANA

Citizens Fear Experimental Spotted Fever Ticks.—The residents of Pine Grove are seeking an injunction to prevent the establishment in that community of a research laboratory by the state of Montana for the purpose of investigating the prevention of Rocky Mountain spotted fever. They have instituted court proceedings, it is reported, making members of the state board of health the defendants. Dr. William F. Cogswell, secretary of the state board of health, testified, July 29, that there would be no chance for the experimentally infected ticks to escape from the proposed laboratory. The question of how fast these ticks travel is said to have enlivened the court proceedings.

NEBRASKA

Reception for Recent Graduate.—The inland village of Martinsburg gave a reception to Dr. John Joseph Melvin, a recent graduate in medicine, in view of the fact that he was the first young man in sixty years of the community's history "to rise to the level of a high profession."

Family Physicians Honored.—On the seventy-fifth birthday of Dr. Ira N. Pickett, about 250 persons of the community of Odell, where he has practiced forty-six years, gathered at his home to present to him a substantial sum in gold. Dr. Pickett is a past president of the state medical society. ——A reception was tendered Dr. and Mrs. Chester H. Longacre by about 400 friends, recently, on the occasion of their leaving the village of Eagle where Dr. Longacre had practiced medicine for nineteen years.

Society News.—Dr. Harry E. Potter, Fairbury, president of the Nebraska State Medical Association, was guest of honor at the June 27 meeting of the Third Councilor District Medical Society, Table Rock. Among others, Dr. Arthur D. Dunn, Omaha, spoke on "How to Conduct Health Examinations." ——The Cedar-Dakota-Dixon-Thurston-Wayne Counties Medical Society met, June 23, at Emerson; among others, Dr. Arthur E. Cook, Randolph, read a paper on "Thrombo-Angiitis Obliterans." —— Dr. Frank M. Conlin, Omaha, addressed the Madison "Four Counties" Medical Society, Neligh, June 22, on "Complications of Diabetes," and Dr. Earl C. Sage, Omaha, on "Sterility of the Female."

NEW HAMPSHIRE

Personal.—Francis G. Benedict, Ph.D., director of the nutrition laboratory in Boston of the Carnegie Institution of Washington, gave an address at the University of New Hampshire, recently, on "Physiologic Research Institutions of Europe."——Dr. Herbert de Montfort Haslam, Overbrook, has been appointed health director of St. Paul's School, Concord, to succeed Dr. James H. Townsend, resigned.

Meeting of Surgical Club.—The thirtieth annual meeting of the New Hampshire Surgical Club will be at Laconia, September 19, and as usual will comprise a week-end outing and a scientific program. There are facilities at Laconia for golfing, swimming, boating, fishing and automobiling. The Laconia members of the surgical club comprise the committee of arrangements with Dr. Clifton S. Abbott, chairman. Dr. Eugene B. Eastman, Portsmouth, is president of the New Hampshire Surgical Club, and Dr. John F. Holmes, Manchester, secretary.

NEW YORK

Health at Albany.—Telegraphic reports to the U. S. Department of Commerce from sixty-seven cities with a total population of about 29 million indicate that for the week ending July 23 the highest mortality rate (18.7) was for Albany, and that the mortality rate for the group of cities as a whole was 10.5. The mortality rate for Albany for the corresponding week last year was 18, and for the group of cities, 11.6.

Dr. Fairman Honored.—About thirty members of the Orleans County Medical Society and other friends gave a dinner at Fairview Manor, near Medina, July 25, in honor of the completion of fifty years in the practice of medicine by Dr. Charles E. Fairman, Lyndonville. The president of the county medical society, Dr. Charles E. Padelford, Hollywood, presided. Among the speakers were Dr. Harry R. Trick, Buffalo, president elect of the state medical society; Dr. Joseph S. Lawrence, Albany, executive officer of the state society, and Dr. William D. Johnson, Batavia, whose subject was "A Doctor of the Old School."

Income from Dewey Estate Goes to Medical Schools.—The will of the late Dr. Charles A. Dewey showed, when probated, July 12, according to the New York *Times*, that the estate of nearly $1,000,000 is to be held intact as the Charles A. Dewey Fund, and that the income will go for the support of the medical schools of the University of Rochester and of Harvard University. Dr. Dewey graduated from the University of Rochester, and from the Medical School of Harvard University in 1880. In addition to the foregoing provision, which became effective through the recent deaths of a nephew and niece, the will provides a gift of $100,000 to the Rochester General Hospital as a memorial to Dr. Dewey's sister.

Society News.—Dr. Burke Diefendorf, Copake, addressed the Columbia County Medical Society, recently, on scarlet fever, and Dr. Lemuel Whittington Gorham, Albany, on pernicious anemia.——Dr. Nathan W. Soble, Rochester, read a paper before the Steuben County Medical Society, recently,

on the "Chronic Intestinal Invalid," illustrated by lantern slides.——Dr. Russell L. Cecil, New York, addressed the Nassau County Medical Society, recently, on "Pneumonia with Relation to the Present Status of Specific Therapy," and Dr. Benjamin W. Seaman, Hempstead, on "Fractures of the Skull."——The Clinton County Medical Society held a testimonial dinner at its recent semiannual meeting to celebrate the seventy-fifth birthday of Dr. William U. Taylor, Mooers, and the seventieth birthday of Dr. William E. Clough, Plattsburg; among the speakers were Dr. Lyman G. Barton, Plattsburg, president of the Fourth District Medical Society; Major Albert S. Bowen, U. S. Army; Dr. Joseph S. Lawrence, executive officer of the New York State Medical Society, and Dr. John B. Wheeler, emeritus professor of surgery, University of Vermont College of Medicine, Burlington.

New York City

Gift for Radium for Hospital.—Edward S. Harkness has given $250,000 to the Memorial Hospital that additional radium may be purchased for the treatment of cancer. This will enable the hospital to increase its supply to a total of 8 Gm.

Hospital News.—The supreme court has approved the absorption of the Williamsburg Hospital by the Brooklyn Eye and Ear Hospital; the combined institution will soon move into new quarters at Greene and Carlton avenues.——The campaign for funds for new buildings for the Italian Hospital has passed the $500,000 mark.

Local Committee on Mental Hygiene.—Representatives of more than thirty agencies dealing with mental problems met recently to organize a New York City committee on mental hygiene as a subcommittee of the state committee on mental hygiene. The general object is to bring together representatives of all agencies in the city now doing mental hygiene work to determine the mental health needs and to promote the development of a well rounded hygiene program for New York City. Dr. C. Floyd Haviland was elected chairman, and Stanley P. Davies, executive secretary.

Resolutions of Respect.—The medical board of the Willard Parker Hospital adopted resolutions at a meeting, June 28, recognizing the great loss the hospital sustained in the sudden death of Dr. Abraham Zingher, who was for years a member of the board and attendant serologist to the hospital. The board recalled his personal work in popularizing the practical application of vaccination against diphtheria and scarlet fever and also his ability as a teacher in bacteriology, and the energy, sincerity and skill which he applied to his work. The board extended to his family its deepest sympathy in their affliction, hoping that the memory of his noble and useful life will in some degree assuage their loss.

OHIO

Narcotic Violation.—Dr. Charles O. Bayless, Dayton, was sentenced to sixty days in jail and fined $500, recently, it is reported, following a plea of guilty to violation of the Harrison Narcotic Law. The specific charge in the indictment was failure to keep proper records of narcotics dispensed.

Bond Issues for Hospitals.—The citizens of Cleveland will vote at the November election on a bond issue of $2,500,000 for the needs of the City Hospital.——The citizens of Springfield will vote in November on a bond issue of $1,200,000 for the purpose of improving the City Hospital.——The citizens of Ashtabula County will soon vote on a bond issue, the proceeds of which will be used to construct a county tuberculosis hospital.

Outbreaks of Infantile Paralysis.—Reports to the state department of health, August 3, indicated that an outbreak of infantile paralysis had occurred at Martins Ferry, and the chief of the division of communicable diseases was ordered to that city to make an investigation. There were said to be about twenty cases. Infantile paralysis was also reported in Cincinnati, August 1, where twelve cases had developed since July 1, two of which were in Madisonville.

Greene County's Anniversary.—The Greene County Medical Society entertained 115 members and guests of the Five County Medical Society at Xenia, June 1, at the celebration of its seventy-fifth anniversary. The guests of honor were Dr. Robert T. Morris, New York, who gave an address on "Fundamental Principles of the Fourth Era of Surgery," and Dr. Leslie L. Bigelow, Columbus, president of the state medical association, who discussed "Advances in Scientific Medicine and the Economic Status of the Profession."

Personal.—Dr. Daniel J. Kindel, chief, division of industrial hygiene, state department of health, Columbus, has resigned to become medical director of the Consolidation Coal Company at Fairmont, W. Va.; Dr. Kindel will supervise the work of the large medical staff and be responsible for the health of a large number of employees.——The colleagues of Dr. Edwin W. Mitchell gave a testimonial dinner recently to celebrate his forty-fifth year in the practice of medicine in Cincinnati.——Dr. Charles J. Griebling, Columbus, and Dr. Seth Hattery, Massillon, have been appointed members of the medical staff of the Ohio Industrial Commission.

Dr. McCampbell Retires as Dean.—After eleven years of service as dean of the College of Medicine of Ohio State University, Columbus, Dr. Eugene F. McCampbell has retired from his official connections to devote his time to private practice. Dr. McCampbell was born in Ohio; he graduated from the University of Chicago in 1906; received a Ph.D. from the school in 1911, and graduated from Rush Medical College in 1912. At various times he has held teaching positions in bacteriology at Ohio Medical University, the University of Wisconsin and Ohio State University, and for four years was the secretary of the Ohio State Board of Health. During the World War, he served in several camps in this country and in the Surgeon General's Office. His successor has not been announced.

Course in Medical Social Work.—The school of applied social sciences, Western Reserve University, Cleveland, will inaugurate in September a course in medical social work. The course will cover one year and be affiliated with the Associated Charities of Cleveland and the Jewish Social Service Bureau in order to afford field training in family case work, cooperating also with the Lakeside, Maternity, and Babies' and Children's hospitals. The students must be college graduates or have had an equivalent experience. The degree of master of science in social administration will be awarded to those who satisfactorily complete the course. Applications for admission should be addressed to Mrs. Virginia Glessner, registrar, school of applied social sciences, Western Reserve University, Cleveland. Courses similar to this one are given at the University of Chicago, Simmons College of Harvard University, Boston, and the New York School of Social Work.

RHODE ISLAND

Personal.—Dr. Charles V. Chapin, for many years health officer of Providence, received the honorary degree of doctor of laws at the two hundred and twenty-sixth commencement of Yale University.——Dr. John Champlin, Jr., Westerly, has been appointed a member of the state board of health for the unexpired term of Dr. Alexander B. Briggs, Ashaway, resigned.

SOUTH CAROLINA

Personal.—Dr. G. R. Westrope has assumed the duties of health officer for Horry County.——Dr. William M. Lester, Columbia, will be superintendent of the Children's Hospital at the state tuberculosis sanatorium which will open this month.

New Directory Shows Decrease in Number of Physicians.—In a comment on the new American Medical Directory, published by the American Medical Association and just recently off the press, the state medical journal notes that South Carolina has listed 1,309 physicians among an estimated population of 1,845,000. In 1913, it is said that the state had 1,433 among an estimated population of 1,607,745. Thus, the population has increased about 240,000, and the number of physicians has decreased 124. Other factors which make the new directory a storehouse of information are mentioned.

Society News.—At the June 20 meeting of the Ridge Medical Society, Leesville, it was voted unanimously to invite the Aiken County Medical Society to join. Dr. John G. Edwards, Edgefield, was elected president at this meeting.——Surg. Gen. Edward R. Stitt, U. S. Navy, was the guest of the Charleston County Medical Society, recently. General Stitt gave an address on "Medical Service of the U. S. Navy."——The Eastern Carolina Medical Association held its annual meeting at Myrtle Beach, July 6; among many others, Dr. Joseph H. Cannon, Charleston, spoke on "Periodic Health Examinations"; Dr. John S. Horsley, Richmond, Va., on "Diagnosis and Treatment of Cancer," and Dr. Andrew J. Crowell, Charlotte, N. C., on "Pain as a Guide to Pathologic Conditions of the Genito-Urinary Tract." Dr. Edgar A. Hines, secretary, South Carolina Medical Association, presented the cause of the Marion Sims Memorial, and introduced Dr. Cyrus Thompson of Jacksonville, N. C.

SOUTH DAKOTA

Society News.—Dr. James F. Coupal, physician to the President, addressed the Black Hills Medical Society, Rapid City, June 24.——The Sioux Valley Medical Association, at its June 29 meeting in Sioux Falls, voted to hold its future midsummer meetings in that city; Dr. Gilbert G. Cottam, Sioux Falls, was elected president, and Dr. John H. Henkin, Sioux City, Iowa, secretary.

TENNESSEE

Society News.—The annual picnic of the Tri-County Medical Society, Carroll, Weakley, Henry and Benton, was held at Page's Grove near McKenzie, July 12; among others, Drs. Duncan Eve, Jr., and John Howard King, Nashville; Peter Whitman Rowland, Jr., Memphis; Charles Hendley, Paris, and Roy A. Douglass, Huntingdon, read papers.

Health at Nashville.—Telegraphic reports to the U. S. Department of Commerce from sixty-four cities with a total population of about 29 million, for the week ending July 30, indicate that the highest mortality rate (21.9) was for Nashville, and that the rate for the group of cities as a whole was 10.5. The mortality rate for Nashville for the corresponding week last year was 24.4, and for the group of cities, 10.9.

Chattanooga Health Officers Resign.—Dr. Charles B. Crittenden, health commissioner of Chattanooga; Dr. James A. Crabtree, Sevierville, head of the bureau of child hygiene, and Dr. Charles E. Homan, Jr., head of the outside patients' clinic, tendered their resignations to the mayor of Chattanooga, effective, September 1. G. R. Kavanaugh, director of sanitation, and Miss Margaret Morrison, bacteriologist, resigned, August 1. Dr. Crittenden has been health officer of Chattanooga for about three years, and previously was state health commissioner. According to the Nashville *Banner*, he intends to go to New York.

TEXAS

Man Wanted Who Likes Dallas.—Following the resignation of Dr. N. W. Andrews as health officer of Dallas, the board of health is said to be seeking for that position a local man who desires the opportunity to serve Dallas and who would not object to a salary of $4,000. Dallas has a population of about 160,000.

Society News.—Dr. Felix P. Miller, El Paso, president-elect of the State Medical Association of Texas, addressed about 500 students at the summer session of Sull Ross State Teachers' College, Alpine, July 14, on "Relation of the Public School Teacher to Public Health."——About 100 physicians of Central Texas, accompanied by their wives, attended the Twelfth District Central Texas Medical Society's meeting in Temple, July 12. Among the speakers were Congressmen Tom Connally of Marlin and Drs. Eugene V. Powell, Dallas; Richard McCormick, Waco; Morris H. Boerner, Austin; William B. Thorning, Houston; Lewis R. Talley, Temple; Arthur C. Scott, Jr., Temple; Howard L. Cecil, Dallas; James E. Robinson, Temple, and Irwin E. Colgin, Waco.——The Smith County Medical Society met in the Blue Bonnet Room, Blackstone Hotel, Tyler, July 12, and was addressed by Dr. Charles M. Rosser, Dallas, on "Goiter"; Dr. Alfred I. Folsom, Dallas, on "Modern Treatment of Stone in the Bladder"; Dr. Robert B. Giles, Dallas, "Clinical Recognition of Coronary Obstruction," and Dr. David L. Bettison, Dallas, "Importance of the Maxillary Sinus from a Medical and Dental Point of View."

WASHINGTON

Hospital News.—St. Elizabeth's Hospital, Yakima, has announced plans to construct a contagious disease building to cost about $11,000.——Dr. Leon G. Woodford has been reelected president of the medical staff of the Providence Hospital, Everett.

Graduate Medical Lectures.—The University of Washington held its annual series of graduate medical lectures, July 18-22. Drs. Charles L. Mix, Chicago, George W. Crile, Cleveland, and Charles L. Scudder, Boston, were the clinicians. Following the clinic, a dinner was given in honor of the clinician of the day, and on Monday evening, the annual banquet was held. The University Golf Club extended its privileges to the physicians enrolled for the course and their wives. The graduate medical lectureship was established by the university in 1915, with the cooperation of the King County Medical Society and the Washington State Medical Society.

WYOMING

State Medical Election.—At the annual meeting of the Wyoming State Medical Society, Cheyenne, June 28, Dr. Archie P. Kimball, Casper, was installed as president; Dr. Frank A. Mills, Powell, was elected president elect; Dr. John L. Linn, Lander, vice president; Dr. Evald Olson, Lovell, treasurer, and Dr. Edwin Earl Whedon, Sheridan, secretary. President Kimball has appointed Dr. Whedon editor. A new feature of the program was a series of clinics given at the Laramie County Memorial Hospital.

GENERAL

Society News.—The American College of Physical Therapy will hold its sixth annual meeting at the Hotel Sherman, Chicago, October 31-November 5, with three days devoted to a school of instruction: one to sectional meetings, one to a joint session and one to hospital and dispensary clinics. The fee for the instruction is $10, and a registration fee for non-fellows to the assembly is $5. Information will be given on request addressed to the American College of Physical Therapy, Suite 820, 30 North Michigan Avenue, Chicago.

Medical Students in Summer Camps.—About 5,000 medical students from certain leading colleges, where reserve officer training corps units are maintained, are in training this summer in camps at Fort Oglethorpe, Georgia; Fort Sam Houston, Texas; Fort Snelling, Minnesota; Camp Lewis, Washington, and Carlisle Barracks, Pennsylvania. The instruction given is practical, supplementing the theoretical instruction given at the colleges. The subjects taught in camp are map reading, personal hygiene, first aid, tent pitching, drill and the tactical employment of different components of the medical regiment. The camps cover a period of six weeks, and since their establishment in 1921, the enrolment has increased from about 800 to about 5,000. At the Fort Snelling camp, the Mayo Foundation awards a cup for proficiency in military hygiene and sanitation which, this year, went to the unit from St. Louis University; it was presented by Dr. Henry W. Meyerding, representing the foundation, July 26. This cup has been awarded annually since 1924.

Medical Veterans Unite with Military Surgeons.—Following the preliminary discussion during the Dallas session of the American Medical Association, the Medical Veterans of the World War voted unanimously at the annual banquet in Washington, May 18, to unite with the Association of Military Surgeons of the United States, and a committee was appointed to determine the conditions of the union. All members of the former association in good standing become members of the latter without payment of dues until July 1, 1928, and they will receive the magazine of the association. Thereafter, the annual dues ($3) will be the only dues charged. A section is to be created in the association, to be called the Medical Veterans of the World War Section, which will have meetings, banquets and so forth, as may be determined by the president and secretary of the section. All records, rolls and funds of the medical veterans are to be turned over to the secretary of the Association of Military Surgeons. The union was to be effective, July 1, 1927. Col. John O. McReynolds, medical reserve corps, Dallas, Texas, and a recent vice president of the American Medical Association, was elected president of the section for the ensuing year, and Col. Arthur T. McCormack, medical reserve corps, Louisville, Ky., elected secretary.

American Hospital Association—Annual Meeting.—The twenty-ninth convention of the American Hospital Association will be held in Minneapolis, Minn., October 10-14, under the presidency of Dr. Richard G. Brodrick, Oakland. The association has published a preconvention number of its bulletin, devoting many pages to the arrangements for the meeting; to pictures illustrating the beauty of Minneapolis and its surroundings, and to pictures of hospitals and officers of the association. The program for the meeting is also given in the bulletin. Monday morning there will be a conference of the officers with the chairmen of the sections and the committees. The governor of Minnesota, the mayor of Minneapolis and physicians from many parts of the country will appear on the program. There will be a symposium, Thursday morning, on "Tuberculosis Sanatoriums"; the speakers will be Drs. Ernest S. Mariette, Oak Terrace, Minn.; Joseph R. Morrow, Ridgewood, N. J.; Alquin J. Davis, Farmingdale, N. Y.; Emmett P. Boas, II, New York; Harry J. Corper, Denver; Jay A. Myers, of the University of Minnesota Medical School; Berthold S. Pollak, Secaucus, N. J.; Charlotte J. Garrison, R.N., Denver; I. Rosenfield, New York, and

T. B. Kidner, New York. At the same time, in Minneapolis, the American Association of Hospital Social Workers will hold its fall meeting; the American Occupational Therapy Association will hold its annual meeting, October 10-12, and the Children's Hospital Association of America will hold its annual meeting, October 12-13, on which days also the Hospital Dietetic Council will meet. There will be a special train from Chicago that will stop over at Rochester, Minn., to enable the delegates to visit the Mayo Clinic, and following a luncheon, Drs. William J. and Charles H. Mayo will address their guests. Persons desiring to take advantage of this stopover privilege should get in touch with their local chairman, or the secretary of the American Hospital Association, Dr. William H. Walsh, 18-20 East Division Street, Chicago.

FOREIGN

India's Lowest Plague Mortality Record.—Fewer cases of plague were reported in India during the first half of this year than at any time since plague was introduced into that country thirty years ago. Deaths from plague during the first nineteen weeks of 1927 amounted to more than 25,000, as compared with almost 110,000 during the corresponding period of 1926. The Epidemiological Report of the League of Nations, July 15, says that in the week ending May 14, the number of plague deaths was 543, as compared to 7,467 in the corresponding week of last year. Plague did not establish itself during the first half of 1927 in any new locality. Plague was also less prevalent than it was last year in Siam, French Indo-China and Java. There were only forty cases reported in Egypt in the first five months of 1927; none at Suez, and only four cases at Fort Said during the first half of the year. In Tunis, however, there were 126 cases in May, and in Senegal, 125. In the Union of South Africa, no case was reported in the four weeks ending June 11. The plague situation, the report says, is distinctly favorable in the great majority of countries.

Notes from Annual British Medical Meeting.—A page of abstracts of papers read the previous day before sections of the British Medical Association, which was then meeting in Edinburgh, was published in *The Scotsman*, July 22. In a paper on "Treatment of Lobar Pneumonia," Prof. John Hay of the University of Liverpool is reported to have said that about seventy-five out of a hundred patients with pneumonia would survive if allowed to do so; that from ten to fifteen would probably die, and that the chances of recovery in another ten or fifteen would depend on the manner in which the case was handled. Professor Hay said that, so far, no scientific evidence had been advanced in favor of the view that alcohol in its specific action was a true cardiac stimulant. He is convinced that the prognosis in any particular patient was rendered graver by repeated doses of alcohol administered to prevent or counteract cardiac failure. The section of forensic medicine debated the subject "Alcohol and the Motorist." Dr. Godfrey Carter of Sheffield University said that for a man to drive a fast running vehicle on a public highway under the present crowded conditions while drunk was only a degree less culpable than for a drunken man to be in charge of a railway engine. It is unfortunate, he said, that the word "drunk" is used in the law, as there is no statutory definition of what constituted being drunk; a better term to use in the law would be "under the influence of alcohol." Dr. Carter considers that the consumption of more than a very small amount of alcohol, whether before or during motoring, is dangerous; lowering of mental alertness and obscuration of judgment must always be present when there are demonstrable signs of alcoholic indulgence. Earl Russel said that the danger of a drunken person driving a motor car was almost greater than that of a drunken man flourishing a loaded revolver, and that he regretted very much that imprisonment was not imposed as a matter of course. Prof. Edward Mellanby, University of Sheffield, discussed "Duties of the State in Relation to the Nation's Food Supply," saying that the trend in scientific work on nutrition was to divide foods roughly into three classes: (1) protective or disease preventing; (2) harmful or disease producing, and (3) neutral foods. Professor Mellanby said that the problem of correct feeding was in a sense even of a more fundamental nature than that of general hygiene since, when the diet is defective, the most perfect hygiene would not prevent ill health. He suggested that the ministry of health establish a board of nutrition, consisting largely of experts in nutritional research, whose duties would be, among others, the instruction of parents on diet. Other subjects discussed, July 21, were "Mental State of the Restless Naughty Child," by Dr. Robert M. Marshall, Glasgow, and "Pulmonary Asbestosis in Its Clinical Aspects," by Sir Thomas Oliver, Newcastle-on-Tyne. The annual dinner of the British Medical Association was presided over by the president, Sir Robert W. Philip, and attended by about 600 ladies and gentlemen. The meeting was said to be the largest gathering in the ninety odd years of the history of the association.

Deaths in Other Countries

Prof. **Albrecht Kossel,** University of Heidelberg, July 5, aged 74, of cerebral hemorrhage.

Government Services

Veterans' Bureau Personals

The June *U. S. Veterans' Bureau Medical Bulletin* notes the following changes in the personnel of the bureau: Dr. Charles S. Adams, transferred from the regional office, Phoenix to Whipple, Ariz.; Dr. Wilhelm S. Anderson, transferred from the regional office, Minneapolis to Fort Snelling, Minn.; Dr. Buell L. Ashmore, appointed at Augusta, Ga.; Dr. Harry P. Bacon, transferred from the regional office, Minneapolis to Fort Snelling, Minn.; Dr. James Breslin, transferred from the regional office, New York to Sunmount, N. Y.; Dr. Herbert A. Burns, transferred from the regional office, Minneapolis to Fort Snelling, Minn.; Dr. Calvin E. Clay, transferred from Algiers, La., to Washington, D. C.; Dr. William H. Conner, transferred from St. Paul, Minn., to Fort Snelling, Minn.; Dr. Ralph E. Davis, transferred from the regional office, Minneapolis to Fort Snelling, Minn.; Dr. Sherwood Dix, transferred from Chillicothe, Ohio, to Bronx, N. Y.; Dr. James Edward Dolan, transferred from the regional office, Minneapolis to Fort Snelling, Minn.; Dr. Alexander G. Dumas, transferred from the regional office, Minneapolis to Fort Snelling, Minn.; Dr. Henry Terrie Floyd, transferred from Oteen, N. C., to Washington, D. C.; Dr. Irving I. Gellman, transferred from Sunmount, N. Y., to the New York regional office; Dr. Henry V. Hanson, transferred from the regional office, Minneapolis to Fort Snelling, Minn.; Dr. Clifford E. Harkey, transferred from St. Paul, Minn., to Fort Snelling, Minn.; Dr. Charles H. Harrison, resigned at Memphis, Tenn.; Dr. Louis C. Jensen, transferred from Minneapolis to Fort Snelling, Minn.; Dr. Jefferson B. Latta, transferred from St. Paul, Minn., to Fort Snelling, Minn.; Dr. Frank J. Lawler, transferred from the regional office, Minneapolis, to Fort Snelling, Minn.; Dr. Willis E. Lewis, appointed at Tuskegee, Ala.; Dr. Robert D. Maddox, transferred from Washington, D. C., to coordination group, Areas A and B, New York City; Dr. Leo M. Maguire, transferred from St. Paul, Minn., to Fort Snelling, Minn.; Dr. Lloyd L. Maurer, transferred from West Haven, Conn., to Washington, D. C.; Dr. Walter A. Monnich, transferred from Minneapolis to Fort Snelling, Minn.; Dr. Leonidas Morris, appointed at Tuskegee, Ala.; Dr. George H. Parmenter, transferred from St. Paul, Minn., to Fort Bayard, N. M.; Dr. George W. Phillips, transferred from Minneapolis to the Detroit regional office; Dr. Waldemar G. Richter, reappointed at Augusta, Ga.; Dr. Maurice N. Rosenberg, transferred from the regional office, Minneapolis to Fort Snelling, Minn.; Dr. Harry Rubin, transferred from Gulfport, Miss., to Palo Alto, Calif.; Dr. Sancho P. Santos, transferred from St. Paul, Minn., to Fort Snelling, Minn.; Dr. Thomas J. Seale, reappointed at Sheridan, Wyo.; Dr. Alexander W. Seibert, transferred from Whipple, Ariz., to the Phoenix regional office; Dr. Ellery De W. Simpson, transferred from the regional office, Minneapolis to Fort Snelling, Minn.; Dr. William A. Smith, transferred from Outwood, Ky., to Memphis, Tenn.; Dr. George R. Stalter, transferred from Central Office, Medical Service N. P. Division, to Gulfport, Miss., as clinical director; Dr. Presley E. Werlein, appointed Att. Spec. E. E. N. T. at Gulfport, Miss.; Dr. John P. Howser, transferred from Cincinnati to Dallas, Texas; Dr. Morse F. Osborn, transferred from Columbus, Ohio, to Cincinnati; Dr. Jay D. Thomas, transferred from Columbus, Ohio, to Cincinnati; Dr. Lucien Treadway, transferred from Des Moines, Iowa, to Detroit; Dr. Gettis T. Sheffield, appointed at Jackson, Miss. The following resignations are reported: Dr. John W. Baldwin, at Des Moines, Iowa; Dr. Dorrell G. Dickerson, at Seattle, Wash.; Dr. Edward J. Fitzgibbon, at Boston, Mass., and Dr. William Reilly, at San Francisco, Calif.

Foreign Letters

LONDON

(From Our Regular Correspondent)

July 23, 1927.

The Control of Malaria in Malaya

According to Sir Ronald Ross, the Malayan campaign against malaria fever was almost the first begun, and has been the most persistent, the widest, and the most successful of malaria-control campaigns in British areas—perhaps in the world. In 1901 Sir Malcolm Watson was appointed government surgeon at Klang, in Selangor, a town of 3,576 inhabitants contained in an area of 290 acres, of which 22 acres were swamp and 85 jungle or dense growth. The place was badly infested by mosquitoes and full of malaria. Watson made a survey of the breeding places of these insects and found that the chief one was a swamp actually in the middle of the town. The whole fever and the annual death rate stood at 300 per thousand inhabitants, as against the English death rate of 11 or 12. The swamp was drained and the work of mosquito control was begun. This work from 1901 to 1905 cost about $20,000, and during the same period $30,000 was spent on malaria control at the neighboring town of Port Swettenham. The cases of malaria at the hospital which served both Klang and Port Swettenham fell from 610 in 1901 to 199, 69, 32 and 22 in the following four years. In addition, the general death rate fell to less than one fourth of its former height. The work of malaria prevention in Malaya has progressed, until today it has become a part of the life of the whole community. In 1911 Watson was invited to Singapore to advise the health authorities on the control of malaria. The result is that the death rate of Singapore has fallen since 1911 by nearly a half. The whole population of Malaya has learned the value of the campaign against malaria and has become united in supporting that campaign. Laws have been passed imposing on every one the duty of taking preventive measures in the home. It has become a crime to neglect such precautions as the emptying of vessels containing water and the drainage of puddles or other breeding places of mosquitoes.

The Ronald Ross Gate of Commemoration

A memorable ceremony took place in Calcutta, June 7, when in the presence of Sir Ronald Ross, Lord Lytton, governor of Bengal, unveiled a commemorative gate in his honor. The memorial is in the form of a gateway bearing a bronze medallion of Sir Ronald in the center above the arch; while on the left is an inscription to the effect that in the small laboratory 70 yards to the southeast of the gateway, Sir Ronald Ross made his immortal discovery of the mosquito transmission of malaria. To the right of the medallion is a quotation from a poem which Ross wrote when he discovered that the malarial parasite underwent development in a mosquito:

> This day relenting God
> Hath placed within my hand
> A wondrous thing, and God
> Be praised, at His command,
> Seeking His secret deeds
> With tears and toiling breath
> I find thy cunning seeds,
> O million-murdering Death!
> I know this little thing
> A myriad men will save.
> O death! where is thy sting,
> Thy victory, O Grave?

The governor described Sir Ronald Ross's discovery as the greatest contribution to medical knowledge since the days of Pasteur.

Sir Ronald Ross, who was obviously deeply moved, said: "There are some moments in a man's lifetime when he is so overcome with emotion that he can hardly speak, and this is such a moment." He went on to say that this was the proudest moment of his life. It was but rarely that men of science received such recognition during their lifetime. He felt that he ought to be dead; but there was a good deal of life still in him. He recalled the names of a few of the many who were associated with him in research work in malaria. Alphonse Laveran, his master, discovered the parasite of malaria, a man whose genius was typical of the great nation from which he sprang. Sir Patrick Manson, from first to last, was his sponsor and the man who put him on to the right trail. He also referred to the subsequent work in India by Christophers, James and Bentley.

The Health of London

Among the problems relating to London's health which are the subject of comment in the annual report of Dr. F. N. Kay Menzies, the health officer, are the steady fall in the birth rate, the disastrous spread of dental disease, and the menace of smallpox resulting from the decline of vaccination. The outstanding features of the London statistics for 1926 are as follows: The birth rate fell to 17.1 per thousand of the population, the lowest figure recorded for any normal year. In 1925 the rate was 17.9, and in 1924 it was 18.6. The marriage rate was again 17.2 per thousand, as in the two preceding years. At 11.6 the death rate was slightly below that for 1925, but higher than in 1923, when the lowest figure was recorded. Deaths of infants per thousand births were 64, the lowest rate except that for 1923. On the subject of the dwindling birth rate Dr. Menzies notes the increased burden of rent and rates on poor parents with more than two children. Such families add to their earnings by taking in lodgers, and he suggests that municipal authorities might facilitate this by providing houses specially designed for large families, and that, in order to overcome the objection of landlords to children, some deduction should be allowed from the rates in respect of premises occupied by parents with children. In regard to the school medical service it is again emphasized that, increasingly valuable as are the results being attained, much of the work is remedial rather than preventive. In London last year there were five cases of smallpox and one death. In the whole of England and Wales there were no fewer than 10,141 cases (nearly double the number for 1925), of which eleven were fatal. In London elementary schools, 330,395 children were medically inspected by the school medical service, and 103,717 were referred for treatment for various kinds of ailment. Only 11,391 children, or 6.2 per cent of the number inspected, were found to be undernourished. This result is remarkable, in view of the widespread unemployment. It is a testimony to the efficiency of the measures introduced of late years to safeguard the health and well being of our children. A large proportion of the children found to be defective were suffering from dental disease. No diminution in the incidence of dental caries is taking place. All that the medical service has been able to accomplish is to keep its ravages to some extent in check during school life. The widespread and, indeed, almost universal incidence of caries is described as nothing less than a calamity that has overtaken the human race. Viewing it from a broad biologic standpoint, one must be impressed with the fact that the mammalian teeth inherited by man from progenitors who needed instruments to wrest a precarious livelihood by gnawing fibrous roots or tearing raw flesh are no longer needed for this work. The earlier inventions by man, such as the art of cooking and the later developments of civilized customs, have resulted in an abundance of foods that require scarcely any mastication. The teeth

have lost their survival value. Although the teeth of puppies may be rendered badly shaped and imperfect in structure by repeating in them the usual dietetic regimen of human babies, it is impossible to induce in them dental caries at will. One cannot help thinking that modern man has lost an hereditary factor, "resistance to caries," much in the same way as certain kinds of wheat have lost the hereditary factor, "resistance to rust." No other organ in the body shows such a universal tendency to decay as do human teeth. Only by constant and unremitting care can the ravages of dental decay be kept within bounds. The school medical service is keeping the teeth of children under constant supervision and inculcating the necessity for dental cleanliness. What is equally needed is instruction of the mothers on the feeding of infants in order to insure that when the teeth are being laid down in the jaws during babyhood they should be strong.

Summing up, the records show an improvement in the health of the children during school life and an intensification of the activities of children's care in the two years immediately preceding the school leaving age. The school medical service is a receiver of damaged goods and spends most of its time and energies in patching them up. What is required is intensification of social effort directed to the care of the infant in arms and the toddler before school age, so that children shall come to school with constitutions unimpaired and with bodies attuned to receive mental, moral and physical education.

The National Association for the Prevention of Tuberculosis

The conference of the National Association for the Prevention of Tuberculosis was opened by Mr. Neville Chamberlain, minister of health. He said that 35,000 deaths from tuberculosis had taken place last year. Fifty years ago the death rate from all forms of tuberculosis was 287 per hundred thousand; last year the rate had fallen to 96. What was the cause of this great reduction? It had been shown by Sir Archdall Reid and others that by a slow process partial immunity was acquired by nations. Possibly the same process was still going on, but no proof was available and he preferred to ascribe the drop in tuberculosis mortality to two other factors: (*a*) improvement in the social surroundings of the people, and (*b*) special measures. Among the conditions that affected the health of the people, one of the most dominating was housing.

Sir John Robertson, health officer for Birmingham, said that reduction in the number of new cases was far more important than the discovery of any panacea. He submitted statistics of incidence of the disease both for England and Wales and for the United States which showed that the influences producing a high mortality among males in both countries were very similar. There was a high incidence among males between the ages of 20 and 45, the mortality during these years being somewhat uniform, while among females the highest rate was in the period of 20 to 25, after which it rapidly declined until 50 years was reached. For each of the age groups there had been during the past twenty-five years a large reduction in mortality, except in the age groups for females between 15 and 25, in which there had been a slight increase. He had been particularly struck by the greatly reduced incidence of tuberculous adenitis, although no statistics as to this were available. The three outstanding events which had probably exerted the greatest influence in reducing the incidence of, and mortality from, tuberculosis were the introduction of compulsory general education in 1870, the discovery of the tubercle bacillus and the subsequent methods of immunization, and the establishment of antituberculosis schemes with their tuberculosis officers, sanatoriums, hospitals and dispensaries. Of all these factors he believed that better education was the greatest. A modicum of general education made the people dissatisfied with their unhygienic conditions of life and with the amount and cost of the food supply, nor could any one doubt that the exercise of good general intelligence was perhaps the greatest asset in the campaign against tuberculosis. In a large poor-class district in Birmingham, where ignorance prevailed, the rate of mortality from the disease was four times what it was in another area inhabited by intelligent artisans. The most effective method in the campaign was the increase of knowledge of healthy living. He urged the paramount importance of suitable and adequate nutrition and of an abundance of fresh air and sunlight. A great deal remained to be done in regard to the question of the feeding of the people, although a great improvement had taken place in the last seventy or eighty years in amount and quality of food available for the laboring classes. People still in every class of society risked their health in the dull light and stagnant air of badly constructed workplaces or dwellings. Specific immunity did not seem to be of value when dealing with the whole subject of tuberculosis, for those who had now contracted tuberculosis must at some time have received some tubercle bacilli which ought to have protected them against subsequent disease. What was needed above all was a better general education, by which alone a community was capable of grasping the meaning and value of knowledge directed to such a special subject as healthy living. The better the education of the masses, the better they were able to appreciate the reasons for adopting those measures which maintain health. Special education in the prevention of tuberculosis was also essential. The antituberculosis dispensary as a means of spreading knowledge was probably the most important weapon in the campaign against tuberculosis.

PARIS

(From Our Regular Correspondent)

July 13, 1927.

The Use of the Whipple Method

The treatment of pernicious anemia by the Whipple method of administration of liver was recently discussed before the Société des médecins des hôpitaux de Paris. MM. Rathery and Maximin reported several cases in which patients who had been treated for long periods, but in vain, by the ordinary methods were rapidly relieved of all their symptoms by the liver method. The treatment consisted in the daily ingestion of 250 Gm. of calves' liver. The remarkable results were confirmed by M. Crouzon. In one of his patients who suffered with subacute combined sclerosis, associated with pernicious anemia, the red corpuscles increased within three months from 1,700,000 to 4,200,000. M. Rist obtained the same results in a man, aged 70, suffering from prostatic disease and pernicious anemia. M. Labbé recommended long observation, since it might be found that the treatment had to be kept up without interruption lest quick relapses occur.

The New Social Insurance Law

The senate has finally passed the new social insurance law after three weeks of debate, and in spite of objections raised by the medical societies and by financial experts. Some estimate that ten billion francs will be required to put the law in operation. This will cause an increase in the price of industrial products, since the merchants are determined to increase prices to cover the new taxes they must pay, and the labor unions will demand increases in pay to compensate for the reductions in salaries that the act entails. From many angles, the passage of the bill appears to be a catastrophe just at the time when the country was beginning to reestablish itself financially. The senate declares that it is under obligations to carry out promises made long since to the working

classes. The unions, however, have declared that they do not have any interest or confidence in the law, that they object to the reductions in salaries, and that the mutual aid societies, which have been in operation for fifty years, assured them the same results with less outlay. The chamber of deputies passed the bill almost without discussion, six years ago. In the meantime, however, the senate has made important changes in the bill, which makes it necessary to submit it again to the lower house.

Danger in the Treatment of Tuberculous Adenitis by Roentgen Rays

Before the Société médicale of Tunis, MM. Cassute and Hayat reported recently several cases that suggest that the treatment of tuberculous adenitis by roentgen rays presents serious risks. In a woman large cervical adenopathies disappeared entirely after three sittings. At that time the lungs were intact. A few days later, symptoms of a grave febrile infection appeared and at the end of two months there was acute infiltration of the two apexes, which soon ended in death. A child in whom an ordinary cervical adenitis disappeared after a few roentgenologic treatments presented, a few weeks later, frank signs of tuberculous meningitis and soon died in convulsions. MM. Cassute and Hayat think that these risks should be taken into consideration.

A Significant Type of Ball Organized by the Medical Students

For more than a century, it has been the custom for the medical students of Paris to give a ball each year, on the evening of the day on which the competitive examination for admission to hospital internship is held. The old Bullier dance hall, celebrated in the annals of "la vie bohémienne," is the usual stamping ground. The students of the Ecole des Beaux-Arts, who also give a similar ball, have for a number of years had the habit of making each ball the occasion for studying and depicting by means of suitable costumes some particular epoch of history: the Egyptian epoch, the Greek epoch, the middle ages. The medical students decided this year to adopt a similar program but sought to keep the festival strictly within the realms of medicine. They chose, therefore, as the theme for the *bal de l'internat*, this year, the battle of the blood corpuscles. Some of the dancers wore costumes representing the leukocytes; others depicted by their reddish garb the erythrocytes. The micro-organisms were represented by rows of streptococci, constellations of staphylococci, and serpentine chains of *Spirochaeta pallida*. To make the symbolism even more realistic, pursuits and battles between the joyous dancers typifying the various elements were inaugurated. Especially, the phagocytosis going on between the micro-organisms and the leukocytes was depicted in a most harrowing manner.

Heliotherapy in High Altitudes

On his tours of inspection of institutions for heliotherapy of tuberculosis, Dr. Armand-Delille discovered that patients with peritoneal tuberculosis and adenitis recover here in less than six months, without surgical intervention. Articular lesions are cured in from twelve to eighteen months, whereas these patients would have dragged out many years in the ordinary hospitals. The patients register considerable gains in weight, and the general health becomes better. Not only do the fistulas dry up but (which is more significant) osteoarthritis is cured without ankylosis, with return of articular movement, and the symptoms of Pott's disease disappear, followed by a return of suppleness to the spinal column. In conclusion, Armand-Delille expressed the hope that further sanatoriums for heliotherapy might be erected at the beautiful resorts located in the high table-lands of France in the Alps and the Pyrenees.

Compulsory Notification of Tuberculosis

Heretofore, notification of tuberculosis has not been compulsory, because considerations of a social nature have prevailed over sound judgment. The publication of a case of tuberculosis in a family makes it more difficult for the children in that family to marry. Furthermore, notification of a case of tuberculosis requires disinfection of the dwelling by the municipal authorities, which is not always carried out in a delicate manner, the supervision of all the members of the patient's household, and the isolation of the patient. The chamber of deputies has just approved an act making the notification of tuberculosis compulsory in case of the death of the tuberculous patient. In such event, the disinfection of the dwelling, which may be of questionable value as long as the patient is living in it and infecting it continuously, is absolutely necessary, especially if the dwelling is to be vacated soon and to receive new occupants.

GENEVA

(From Our Regular Correspondent)

July 12, 1927.

Psychotherapy

A recent meeting of the Geneva Medical Society was devoted to the discussion of psychotherapy. Introducing the subject, Professor Claparede questioned whether or not psychotherapy is a scientific method and whether or not the general practitioner makes sufficient use of it.

The part played by the physician does not stop with the treatment of bodily disorders. He must reconstruct the personality disturbed by neuroses, and Claparede has been led to study pedagogy because this branch of learning is to mental conditions what prophylaxis is to disease. Psychology should have a place in the medical curriculum.

General psychotherapy was discussed by Dr. Redalie, who pointed out that psychotherapy was an ensemble of many elements. The reputation and appearance of a physician, and the influence of the consultation room are important factors in psychotherapy and should not be overlooked. Confidence and sympathy are essential to every patient. Hypodermic administration of drugs is often a useful adjuvant in the treatment of neuroses, but is not by itself sufficient. Occupational therapy is of capital importance; it interests the patient and prevents concentration of his mind on his own troubles. The form of work must be carefully chosen and distributed with care; in severe cases manual work is to be preferred.

Dr. Odier pointed out that a distinction should be made between suggestion and hypnosis. Suggestion comprises three phases; namely, the introduction, acceptation and realization. Acceptation is the most important phase. One must be a good "suggester" in order to act on the patient's affectivity in such a way that he will not be distrustful. Suggestion is often illusory in cases of impulses, doubts or perversions, but its results are brilliant in insomnia, fear, various forms of tics, exophthalmic goiter, enuresis, enteritis and spasms. Suggestibility depends on the patient rather than on the disease, and an attempt at suggestion therapy will never result in untoward effects. Suggestion is a scientific procedure which should be resorted to in everyday medical practice.

Dr. deSaussure remarked that psychoanalysis should be employed only by a specialist. It requires much time and when once begun should not be interrupted, as this entails very serious results. Hence this therapeutic procedure is indicated only in certain selected cases or in those in which other treatments have failed. Obsessions and doubts enter into its domain.

The concluding address was made by Dr. Schnyder, who said that the ancient magicians were the first psychotherapeutists; medicine should attempt to domesticate the miracle

for the benefit of patients. Neuropathic subjects are more or less suggestible, and by suggestion one does away with their symptoms and mental disturbances but the patients' personality remains unchanged. Results, therefore, are fragmentary; the façade is demolished but the foundations remain intact. Psychotherapy should transform the subject and better adapt him for life. Rational psychotherapy and analysis tend to make the patient a collaborator, because they act on his reason and judgment, or else on the subconscious. Education of the will is part of rational psychotherapy; reasonable motives should be fortified. Psychoanalysis is valuable in certain cases, but must be handled with great caution. It should above all be pedagogic and not doctrinaire; it should utilize all our knowledge in the application of the treatments; it should be applied to the personality, not merely to the symptoms. The psychotherapy of Dubois is an excellent basis for an integral cure. When making his diagnosis the physician must not neglect the psychic factors; persuasion and encouragement are always helpful in bringing about recovery. Psychotherapy must always be educational in the case of adults and still more so in the case of children.

ITALY

(From Our Regular Correspondent)

May 31, 1927.

Study Tour for Physicians

The fifth study tour of Italian health resorts, for physicians, organized by the Ente nazionale industrie touristiche, for the purpose of giving Italian physicians a first-hand knowledge of our watering places and seaside resorts, will be conducted from June 27 to July 4. The tour will begin at Riva del Garda and end at Domodossola, some taking the special train and some traveling by automobile. The resorts to be visited on the way are Riva, Arco, Terme di Comano, Rabbi, Peco, Casino Boaria, San Pellegrino, Fonte Bracca and Bognanco. At each of the resorts an illustrated medical lecture will be held, following which the buildings and equipment will be inspected.

Competitive Prize Offerings

The Royal Academy of Science in Bologna has announced the tenth international contest for the biennial prize of $180 established by its corresponding member Professor De Cyon. Any of a list of subjects proposed by De Cyon may be chosen, but articles dealing with cardiac functions, functions of the labyrinth, the thyroid, the pituitary body, or the pineal gland, will be preferred. The contest closes, March 1, 1929.

Demographic Problems in Relation to Public Health

In a discourse before the chamber of deputies, Premier Mussolini cited statistical data furnished by Professor Messea, the director general of the public health service. Pellagra, which had been a heavy burden on the Italian people for the past forty years, had almost disappeared, for, in 1922, there were only 198 deaths and, in 1926, only 108 deaths, from that cause; but tuberculosis was still causing a large number of deaths (52,293 in 1922 and 59,000 in 1925). The mortality from malignant tumors is especially high. In general, the mortality from malaria is on the decrease. In 1922 there were 4,085 deaths from malaria, but in 1925 the number was reduced to 3,588. The total number of deaths from alcoholism in 1925 was 1,315. The government has closed 25,000 places where alcoholic beverages were dispensed, and is planning to reduce the number still further. As a step forward in race hygiene, the Opera nazionale per la protezione della maternità e dell'infanzia, which numbers at present 5,700 institutions, was founded. To finance the undertaking, recourse was had, among other measures, to a tax on unmarried persons, which brings in nearly three million dollars each year. A further tax on childless marriages is being considered.

The birth rate has decreased from 38 per thousand during the period from 1881 to 1885 to 27 per thousand in 1926. The premier expressed the hope that this tendency might be checked and that the birth rate might rise again, for he held that Italy should increase its population up to at least 60,000,000 inhabitants.

Progress in Social Medicine

Questions of social medicine are interesting the national government. The state plans: (1) to improve the present form of accident insurance; (2) to improve and extend maternity insurance; (3) to provide insurance against industrial diseases and tuberculosis, as a beginning of a general system of insurance against all forms of illness; (4) to perfect insurance against involuntary unemployment, and (5) to institute special forms of insurance for young workingmen.

In addition, the general regulations with regard to the hygiene of labor, which go into effect, July 26, 1927, contain provisions relative to the inhabitability of rural dwellings and with regard to places that are prohibited as sleeping rooms for workmen, whether temporary or permanent. Hygienic provisions are also established with reference to stables, the disposition of manure, the construction of cesspools in rural districts, and the acquisition and distribution of drinking water for the rural populations.

POLAND

(From Our Regular Correspondent)

WARSAW, June 15, 1927.

Fourth International Congress of Military Medicine and Pharmacy

This year, the Fourth International Congress of Military Medicine and Pharmacy was held at Warsaw. The first congress was held at Brussels in 1921 on the initiative of Belgium, and the second and third were held in Rome and in Paris, respectively. This time Poland organized a meeting, important from social, political and medical points of view, because of the situation of Warsaw in the heart of Central Europe, and instructive to a high degree because of the important work which was reported there. Most of all, this medical military meeting exemplified in a brilliant fashion the perfect organization of Poland. The aid which the government of Poland gave to all the receptions contributed to the success of the congress, at which thirty-six nations were represented. Each report was the origin of conclusions which were transmitted to all governments:

FIRST QUESTION: EVACUATION OF THE WOUNDED IN WAR

1. In war, tactical conditions, the nature of the terrain and bad weather take on such importance that it would be impossible and harmful to try to formulate a precise scheme of action.

2. Flexibility in methods of treatment becomes a necessity. All means of evacuation are to be utilized, whether according to regulations or improvised—ambulances or trucks, motorized or horse drawn.

3. Medicomilitary tactics not only ought to serve the combat units but also should conserve the reserve forces.

4. Aviation is becoming of the greatest importance in evacuation of the wounded in war and is going to constitute an indispensable aid in the solution to this problem. The organization of medical aviation ought to be studied in time of peace through the adaptation of civilian transport to medical purposes. These means of transportation over long distances should assume an important rôle in mountain warfare.

5. It is more and more indispensable that the directors of the medical service and their assistants be well informed on the problems offered under war conditions. Only profound knowledge constantly reinforced can make them acquainted with the different emergencies that arise.

SECOND QUESTION: THE TREATMENT OF HEAD WOUNDS AND THEIR SEQUELAE

1. War experience has shown that among the sequelae of head wounds are epilepsy, psychoses and neuroses, developing in predisposed individuals.

2. This class of subjects ought to be discharged from the army, even during war, for the good of the service.

3. The most favorable soil in which sequelae of skull injuries can develop is found in those wounded who have developed infection and the most grave sequelae are in those who have undergone prolonged suppuration. It is necessary to utilize, during war, methods of treatment which permit healing of wounds by first intention.

4. Among the sequelae of skull injuries, epilepsy is frequent and serious. Research on the pathology of this syndrome should be made.

THIRD QUESTION: ETIOLOGY AND PROPHYLAXIS OF GRIP

1. The lack of knowledge of specific diagnostic bacteriology in addition to frequent uncertainty in clinical diagnosis of grip renders difficult the institution of prophylactic measures. Exchange of views on this question whenever opportunity offers would be desirable.

2. Grip seems to be due to a filtrable virus which is found particularly in the rhinopharyngeal mucus and in the products of expectoration. This virus aids the growth of numerous organisms and in particular those which provoke complications.

3. Direct transmission of grip by coughing is the almost exclusive means of dissemination of the malady. However, the contagion can be spread by indirect means.

4. In the army, detection of the infection is not always possible. Isolation rooms are most useful. Among the numerous complementary measures, useful under various conditions, are periodic visits to the infirmary, prompt removal of each sick person, the spacing of beds in barracks, and protection of effectives.

5. In the hospital, strict isolation of all sick persons who present complications is imperative. The employment of vaccines in the struggle against infectious complications of grip apparently should continue to receive attention. The medical personnel and all who are engaged in the treatment of patients with grip should protect their mouths, noses and eyes by masks.

FOURTH QUESTION: THE ARSPHENAMINES

1. Chemical methods do not permit sufficiently accurate valuation of the relative toxicity of arsphenamines and neoarsphenamines. Continued research in this field is recommended.

2. All neoarsphenamines proposed for medical usage ought to have a standard content of arsenic.

3. It is recommended that studies be pursued in the possibility of evaluating the relative toxicity of these products through the employment of physical methods.

4. The method of performing toxicologic experiments on animals (rabbit, mouse and rat) is judged necessary. The elaborate methods of the commission on hygiene of the League of Nations are available.

5. Chemical examination remains as a method by which the manufacture of these products can be controlled.

6. The action of arsphenamine on experimental trypanosomiasis ought to be studied. The action should be designated as "experimental trypanocide activity" and not as "therapeutic activity."

Fifth Congress

In the general assembly the congress decided to accept the invitation of the British government to hold the fifth congress in London in 1929. The following questions have been chosen as the order of the day:

1. Evacuation by Water and by Air. Liaison of Medical Services of the Army and Navy.—Great Britain and France.

2. Tropical Fevers of Short Duration.—Great Britain and Netherlands.

3. Blood Vessel Wounds and Their Sequelae.—Great Britain and Belgium.

4. Physical and Chemical Analysis of the Glassware and the Articles Made of Rubber Utilized in the Sanitary Service.—Great Britain and Spain.

5. Condition of the Teeth and the Physical Aptitude for Different Military Services.—Great Britain and Cuba.

New International Bulletin

It has been decided to found an International Bulletin of the International Congress of Military Medicine and Pharmacy, which will be published in French and in English under the supervision of the *Archives médicales belges*. The permanent committee will appoint for this work an editorial committee, on which will appear one member from each nation.

BUENOS AIRES

(From Our Regular Correspondent)

June 25, 1927.

Child Welfare Conference

Reference was made in a previous letter (THE JOURNAL, July 30) to the Child Welfare Conference arranged by the League of Nations at Montevideo. The meeting was held, June 6, and was attended by many prominent pediatricians and sanitarians. It was decided to carry out a survey in urban and rural districts with respectively high or low infant death rates in Argentina, Brazil and Uruguay. The result of such studies will be published and made the subject of a thorough criticism before the next conference is held.

Trachoma

The considerable spread of trachoma in some areas of the country, as Santiago del Estero, has been recognized for some time by the national health department, which has organized a number of trachoma dispensaries. Some ophthalmologists, however, have recently expressed the opinion that the disease did not seem to be actual trachoma. A board including in its membership Professor Fuchs and Drs. Ferro, Ibáñez Puigari and Bernasconi Cramer has just stated categorically that the cases are typical of trachomatous conjunctivitis, although serious complications are uncommon.

Publications of the Argentine Medical Association

The Argentine Medical Association supports four medical journals at an annual cost of from 42,155 pesos (about $18,000 in 1925) to 36,117 pesos (about $15,400 in 1926). They are the *Revista de la Asociación Médica Argentina, Revista de Medicina Interna y Tisiología, Revista Argentina de Biología* and *Revista de Especialidades*. They published last year 227 different papers by 337 authors, embodying the transactions at forty-six meetings of the eleven constituent societies.

Lectures at Buenos Aires

After the Montevideo meeting, Drs. Madsen, Rajchmann and Saiki visited Buenos Aires hospitals and laboratories and inspected public welfare and health activities. Dr. Madsen gave a lecture before the Academy of Medicine on stational changes in epidemics, another before the Argentine Medical Association on standardization of biologic products, and finally one on whooping cough at the medical school.

Rajchmann spoke on the health agencies of the League of Nations and Saiki described the work of the Nutrition Laboratory under his direction at Tokyo. With diets deficient in vitamin A, he has seen the development of stones in the urinary bladder, kidneys and gallbladder, as well as hyperkeratosis and gastric carcinoma in white rats. At the same time he exhibited specimens of the calculi, sections and films of his experiments. Professor Fuchs of Vienna has given a series of lectures on subjects connected with ophthalmology before the Argentine Medical Association, the Buenos Aires Medical School and the Academy of Medicine.

Prohibitive Tax on Physicians

San Juan, a province whose previous and present governors (F. Cantoni and A. Cantoni) are physicians, has placed on physicians a practically prohibitive professional tax of 5,000 pesos (about $2,100), unless the practitioner renders free services for a certain number of hours at a hospital or dispensary. Despite general protests on the part of the medical profession, the law has not been revoked. The provisions have, however, been attacked before the courts as unconstitutional and a decision is now pending.

Personal

Dr. José Moreno, professor of therapeutics in the Buenos Aires Medical School, has been appointed superintendent and physician-in-chief of the Juan A. Fernández Hospital.——Dr. Juan V. Bafico has been made director of the morgue.——Dr. C. Robertson Lavalle heads the list submitted to fill the vacant chair of surgical pathology.

Deaths

The Buenos Aires Medical School has just lost by death three of its retired professors: Drs. Justiniano Ledesma, of therapeutics, F. Sicardi, of clinical medicine, and J. Esteves, of clinical neurology; its professor of gynecology, Dr. J. F. Molinari, and assistant professor of clinical surgery, Dr. A. T. Celesia. Another regretted death is that of Dr. Pedro Solanet, who after a brilliant medical debut turned to business and politics, having completed recently a term as lieutenant governor of Buenos Aires province.

BERLIN

(From Our Regular Correspondent)

July 15, 1927.

West German Institutes for Research on Tuberculosis and Rheumatism

In order to promote cooperation in solving problems relating to tuberculosis, the antituberculosis organizations of western Germany have founded the West German Institute for Tuberculosis Research with its seat in Düsseldorf. A rheumatism research institute has been founded in Aix-la-Chapelle under the same conditions and with a similar purpose. The erection of a special laboratory for the Rheumatic Research Institute is planned.

Russian Society of Liberty Men at Berlin

In return for the hospitality extended to German scientists at the celebration of the two hundredth anniversary of the Russian Academy of Science, the German government recently invited a large number of Russian scientists to present reports of their researches. The opening lecture, given by Professor Semaschko of Moscow, was concerned with his five years' experience in public hygiene. His public hygiene institute is connected with a special hospital for the treatment of occupational diseases. As a result of five years' work, smallpox is disappearing in consequence of compulsory vaccination. Other diseases, such as cholera and typhoid, are decreasing, and, as they go, the mortality falls. The total mortality for 1913 was 27.3, as against 23.7 for 1924. Infant mortality has decreased still more. At the same time, the birth rate has not diminished in spite of the liberal legislation on artificial abortion. The number of births is estimated at 43.8 per thousand of population in 1913, and 43.6 in 1924. The increase of births over deaths was 16.5 in 1913, and 21.5 in 1925.

Professor Feodoroff delivered a lecture on the surgical treatment of renal calculus in the last fifty years. In his opinion, operation is not always indicated. He knows patients with renal calculus who have been without symptoms for seventeen, thirty and thirty-five years.

Professor Palladin of Charkow lectured on the biochemistry of the brain under the influence of hunger; the weight of the cerebrum remains nearly constant, but the composition does not. The water content apparently increases. The decomposition of albumin, characterized by the fact that nitrogen can no longer be precipitated, increases only in the white substance, not in the gray. He found that four different portions of the human brain; namely, the cortical motor area, the sensory area, the association area and the visual center, all contain different amounts of cholesterol and unsaturated phosphatides and lecithins. To find out whether or not, in the absence of disturbances such as poison, there exists a difference between the chemistry of the resting and that of the working brain, Palladin investigated the influence of light on the visual apparatus. He closed together the eyelids of cats. On examination, the visual areas of the brains of these animals showed considerable diminution of the splitting of albumin (up to 30 per cent). On removal of the closure, so that the influence of light again was felt, the metabolism of the visual paths returned to normal in a few minutes. There is here a direct connection between function and metabolism. Concerning changes in vitamin deficiency diseases Palladin found by examining the brains of pigeons and guinea-pigs that there are signs of irritation of the nervous system in multiple neuritis but not in scurvy. In multiple neuritis, Palladin found decrease of albuminous nitrogen, increase of creatine above normal, and entirely different values from those present in hunger. The water content increased in scurvy, but the splitting of albumin remained unchanged. These examinations make a promising beginning for a study of the chemical dynamics of cerebral function.

Abriskosow, professor of pathologic anatomy in Moscow, Professor Koltzow, director of the institute of experimental biology in Moscow, and Professor Lasarew, director of the institute of biophysics, also delivered addresses.

Marriages

PHILIP SHOWALTER HENCH, Rochester, Minn., to Miss Mary Kahler, July 14.

ROY M. MONTFORT to Miss Harriette E. Smith, both of Danville, Ill., July 6.

KENNETH NORMAN PETRI to Miss Esther Hoeflin, both of Washington, Ill., June 23.

WALTER GRANT BERNARD, Detroit, to Miss Jessie A. Paul of Sarnia, Ont., Canada, June 29.

CONSTANTIN L. A. ODEN, Muskegon, Mich., to Miss Armida Johnson of Maywood, Ill., July 28.

ARCHIBALD MCKAY FRASER, Boston, to Miss Marie Claire Karle of Brookline, Mass., recently.

NELSON HOLE CHESTNUT, Mason City, Ill., to Miss Mildred Holland of New Holland, July 19.

WELLES ADAMS STANDISH, Hartford, Conn., to Miss Rosamond Tobin of Evanston, Ill., June 18.

HERBERT D. CRALL, of Los Gatos, Calif., to Mrs. Leonora Shiels Woolrich of San Francisco, June 24.

CLIFFORD VERYL MORGAN, University Place, Neb., to Miss Anna Marie Herrmann of Cincinnati, July 20.

Deaths

Leonard Wood ✠ Governor General of the Philippine Islands, died at the Peter Bent Brigham Hospital, Boston, August 7, following an operation, aged 66. General Wood had been in poor health for some months, having undergone an operation for hernia in Manila recently; he was injured on board ship while en route to the United States and was suffering from a recurrence of a condition for which he was operated on many years ago. General Wood graduated from Harvard University Medical School in 1884, and served an internship at the Boston City Hospital. He practiced medicine in Boston and was appointed assistant surgeon in the medical corps of the army in 1886. While still serving as a medical officer in the Lawton Expedition against the Indians in 1886, he distinguished himself also as a line officer and was awarded the Congressional Medal of Honor. He commanded the regiment of Rough Riders in the Spanish-American War, and for its achievement at San Juan and Las Guasimas was promoted to Brigadier General of U. S. Volunteers. After the war, General Wood was appointed military governor of the island of Cuba, where he achieved renown and greatly encouraged the special commission appointed to investigate the method of transmission of yellow fever. He was promoted to Major General of the Volunteers, was commissioned Brigadier General in the regular army in 1901 and Major General in 1903. He served in the Philippine Islands as governor of the Moro province from 1903 to 1906 and as commanding general of the Philippine Division until 1908, when he returned to the United States to command the Department of the East until appointed special ambassador to the Argentine Republic in 1910. General Wood was partly responsible for the creation of the general staff of the army and served as its first chief from 1910 to 1914. He then returned to command the Department of the East and later was assigned to command the Southeastern Department. Forseeing the trend of events in 1916, he originated the so-called Plattsburg plan of training reserve officers and during the World War trained the eighty-ninth division of the National Army, the tenth division of the regular army and various special regiments and battalions. He was in command of the central department with headquarters at Chicago from 1919 to 1921, then was made chairman of a special commission to the Philippine Islands and then governor general. General Wood was retired from active army service at his own request in 1921. He was a candidate of the Republican Party for President of the United States, was honored by universities in this country and abroad, was Grand Officer of the Legion of Honor of France, Grand Officer of the Rising Sun of Japan, and was similarly honored by other countries. His life was devoted to the service of his country.

Charles Ira Redfield ✠ Middletown, N. Y.; University of Pennsylvania School of Medicine, Philadelphia, 1894; formerly health officer of Middletown; at one time member and president of the board of education; at various times on the staffs of the Middletown (N. Y.) Sanatorium, and the Municipal Sanatorium, Otisville; for twenty years on the staff of the Thrall Hospital; aged 54; died, July 16, of cirrhosis of the liver.

Albert Charles Kubicek ✠ Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1899; University of Illinois College of Medicine, Chicago, 1901; formerly professor of surgery and surgical anatomy at Bennett Medical College; on the staff of the Garfield Park Hospital, and formerly on the staff of Cook County Hospital; aged 50; died, July 24, of a self-inflicted bullet wound, while suffering from pneumonia.

John Henry Voje ✠ Oconomowoc, Wis.; Chicago Medical College, 1876; University of Leipzig, Germany, 1884; formerly medical director and proprietor of the Waldheim Park Sanatorium, now known as the Summit Hospital; aged 74; died, July 21, at the Columbia Hospital, Milwaukee, following an operation for hypertrophy of the prostate and hydronephrosis.

John Covert Boyd ✠ Captain, U. S. Navy, retired, Washington, D. C.; Medical Department of the University of the City of New York, 1872; was appointed medical director with the rank of captain in 1903, and retired on his own application after thirty years' service in 1911; aged 77; died, in July, at London, England, of angina pectoris.

Joseph M. Spellissy, Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1890; member of the Medical Society of the State of Pennsylvania; on the staffs of the Pennsylvania Hospital, St. Edmond's Home for Crippled Children, and the St. Joseph's Hospital, where he died, July 27, of arteriosclerosis, aged 60.

Roy Chappell Seamans, Batavia, N. Y.; Syracuse University College of Medicine, 1911; member of the Medical Society of the State of New York; on the staffs of St. Jerome's Hospital, and the Woman's Hospital, also known as the Batavia Hospital, where he died, July 22, following a cholecystectomy, aged 44.

Albert Gallatin Franklin ✠ Major, M. C., U. S. Army, San Antonio, Texas; University College of Medicine, Richmond, 1897; served during the World War; appointed a major in the regular army medical corps, 1920; aged 54; died, June 1, at the Walter Reed General Hospital, Washington, of chronic toxic myelo-encephalitis.

Benjamin Eugene Merrill ✠ Santa Paula, Calif.; Hahnemann Medical College and Hospital of Philadelphia, 1901, and Medico-Chirurgical College of Philadelphia, 1904; superintendent and owner of the Santa Paula Cottage Hospital; aged 56; died suddenly, June 9, of heart disease.

Charles Christopher Blake ✠ San Mateo, Calif.; University of Louisville (Ky.) School of Medicine, 1907; member of the Nevada State Medical Association; aged 55; died, July 16, at the University of California Hospital, San Francisco, of bronchopneumonia and abscess of the lung.

George Thomas Fuller, Mayfield, Ky.; Eclectic Medical Institute, Cincinnati, 1889; member of the Kentucky State Medical Association; for many years a member of the state board of health; aged 72; died, July 23, as the result of a cerebral hemorrhage.

James W. C. Scott, Columbia City, Ind.; Jefferson Medical College of Philadelphia, 1880; past president of the Whitley County Medical Society; member of the Indiana State Medical Association; aged 74; died, June 15, of cerebral hemorrhage.

Edward Kerr ✠ Downingtown, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1890; on the staff of the Chester County Hospital, West Chester, where he died, May 31, of streptococcus septicemia and pneumonia, aged 58.

Walter S. Wilson, Lewistown, Pa.; College of Physicians and Surgeons, Baltimore, 1879; member of the Medical Society of the State of Pennsylvania; on the staff of the Lewistown Hospital; aged 72; died, June 5, of tuberculosis.

Gerald Ryan Moloney, Belleplaine, Minn.; Medical Department of the University of the City of New York, 1875; member of the Minnesota State Medical Association; aged 78; died, July 18, of injuries received in an automobile accident.

Charles Holmes Goodman, St. Louis; Hahnemann Medical College of Philadelphia, 1869; formerly on the staffs of the Christian, and St. Louis Children's hospitals; aged 83; died, July 19, at St. John's Hospital, of carcinoma of the neck.

Charles Clinton Bartholomew, Ogdensburg, N. Y.; Bellevue Hospital Medical College, New York, 1870; formerly health officer of Ogdensburg and county coroner; aged 81; died, July 8, at the Hepburn Hospital, of cerebral hemorrhage.

William Barton Crum, Fort Deposit, Ala.; University of Alabama School of Medicine, Tuscaloosa, 1888; member of the Medical Association of the State of Alabama; aged 62; died, June 28, at Montgomery, of angina pectoris.

Benjamin Franklin Teters ✠ Middlebury, Ind.; Jefferson Medical College of Philadelphia, 1886; past president of the Elkhart County Medical Society; aged 66; died, July 20, of pulmonary tuberculosis and arthritis deformans.

Daniel H. Kash, Blue Diamond, Ky.; Hospital College of Medicine, Louisville, 1907; member of the Kentucky State Medical Association; aged 45; died, July 19, at St. Joseph's Hospital, Lexington, of abscess of the lung.

James Asbury Sewell ✠ Boyce, La.; Medical Department of the Tulane University of Louisiana, New Orleans, 1905; aged 43; died, in July, at a hospital in Hot Springs National Park, Ark., of acute encephalitis.

Robert Connell Meadors, Marvell, Ark.; Vanderbilt University School of Medicine, Nashville, Tenn., 1913; aged 40; died, in May, at the U. S. Veterans' Hospital number 88, Memphis, Tenn., of tuberculosis.

Alexander Gladstone Kennedy, Boston; College of Physicians and Surgeons, Baltimore, 1897; member of the Massachusetts Medical Society; aged 56; died, July 9, of cardiorenal disease.

Samuel Austin Pratt, Kingwood, W. Va. (licensed, West Virginia, under the Act of 1881); member of the West Vir-

ginia State Medical Association; aged 77; died, June 15, of pneumonia.

Maurice Joseph Allen, West Newton, Mass.; Harvard University Medical School, 1927; aged 31; died, July 12, at the City Hospital, Boston, of injuries received in an automobile accident.

William A. Wescott ✠ Berlin, N. J.; Jefferson Medical College of Philadelphia, 1883; for several years member of the state board of health; aged 70; died, July 9, of heart disease.

Charles Theodore Schondelmeier ✠ Brooklyn; Bellevue Hospital Medical College, New York, 1882; Civil War veteran; aged 83; died, July 18, of carcinoma of the colon.

Felix Hintz, Buffalo; University of Buffalo School of Medicine, 1891; member of the Medical Society of the State of New York; aged 71; died, recently, of angina pectoris.

John Oscar Nystrom, Omaha; Bennett College of Eclectic Medicine and Surgery, Chicago, 1900; aged 66; died, July 13, of chronic nephritis and carcinoma of the prostate.

James Monroe Boyd ✠ Pasadena, Texas; Memphis (Tenn.) Hospital Medical College, 1912; served during the World War; aged 55; died, July 23, of lobar pneumonia.

Henry Greely Read ✠ Tipton, Ind.; Miami Medical College, Cincinnati, 1883; formerly member of the state legislature; aged 69; died, July 25, of carcinoma of the ileum.

William Everett Hogan, West Milton, Ohio; Miami Medical College, Cincinnati, 1896; aged 56; died, July 21, at Portsmouth, of carcinoma of the stomach.

Samuel Bell ✠ Algonac, Mich.; Michigan College of Medicine, Detroit, 1881; aged 70; died, July 16, of diverticulosis of the colon and interstitial nephritis.

John Harrison Knight, East Point, Ga.; University of the South Medical Department, Sewanee, Tenn., 1900; aged 73; died, June 10, of cerebral hemorrhage.

Lee C. Myers, Anderson, Ind.; Meharry Medical College, Nashville, Tenn., 1913; aged 41; died, July 17, at Rochester, Minn., of carcinoma of the cecum.

William J. Fife, Waterville, Ohio; Fort Wayne College of Medicine, 1886; Civil War veteran; aged 80; died, July 16, of cerebral hemorrhage.

John O. Jackson, Corry, Pa.; Homeopathic Hospital College, Cleveland, 1882; aged 71; died, in June, of cardiovascular and renal disease.

James Maddox Strickland, Austell, Ga.; Atlanta Medical College, 1895; also a druggist; aged 60; died, July 18, following a long illness.

William B. Crawford, Lincolnton, Ga.; University of Louisville (Ky.) School of Medicine, 1892; aged 60; died, June 10, of paratyphoid fever.

Oscar A. Todd, Atwood, Tenn.; University of the South Medical Department, Sewanee, 1900; aged 58; died, May 31, of heart disease.

W. Webster-Butterfield, Los Angeles; Bellevue Hospital Medical College, New York, 1868; aged 82; died, April 28, of heart disease.

Lemuel Pinckney Peters ✠ Clayton, Ill.; Keokuk (Iowa) Medical College, 1905; aged 49; died suddenly, July 18, of heart disease.

Paul Ackermann, Chicago; Chicago College of Medicine and Surgery, 1910; aged 55; died, July 19, of chronic myocarditis.

Eugene L. Robertson, Lansing, Mich. (licensed, Michigan, 1900); aged 78; died, July 10, at Sarasota, Fla., of chronic myocarditis.

E. J. Beck, Quail, Texas (licensed, Texas, under the Act of 1907); aged 62; died suddenly, July 12, of cerebral hemorrhage.

Anderson W. King, Redlands, Calif.; Rush Medical College, Chicago, 1854; aged 101; died, April 10, of bronchopneumonia.

William Carter Griswold, Princeton, Ill.; Chicago Medical College, 1864; Civil War veteran; aged 87; died, July 20, of senility.

Davis J. Thomas, Lockney, Texas; Eclectic Medical Institute, Cincinnati, 1883; aged 73; died, July 14, of pneumonia.

Chester A. Tygart ✠ Denver; Central Medical College of St. Joseph, Mo., 1898; aged 63; died, May 9, of tuberculosis.

John Wesley Hurt, Atlanta, Ga.; Atlanta Medical College, 1884; aged 67; died, July 19, of heart disease.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

LUCKY TIGER

A Dangerous Nostrum Sold for Dandruff, Eczema and Sore Feet

The Lucky Tiger Remedy Company of Kansas City, Mo., puts out a preparation called "Lucky Tiger," which bears on the trade package such claims as:

"Kills dandruff germs—stops itching."

"Corrects eczematous conditions of the scalp, promotes luxuriant growth, the most efficacious remedy that science and money can produce."

"Stops falling hair."

"The world's greatest hair and scalp remedy. . . . A single bottle has been known to relieve the worst form of scalp disorders."

These and similar claims make plain the fact that Lucky Tiger is not a cosmetic (and therefore exempt from the operations of the national Food and Drugs Act) but is sold specifically as a remedy for human ailments. In view of this, it is hard to understand why the federal authorities have not proceeded against the thing, as the claims made are obviously false and fraudulent, while the product itself is, as will be shown, a dangerous one.

The carton in which the bottle of Lucky Tiger comes reproduces the usual farrago of testimonials, most of them dealing with the alleged virtues of Lucky Tiger as a cure for eczema. Evidently believing that the sale of this nostrum can be increased by enlarging the scope of its alleged remedial powers, the Lucky Tiger Remedy Company encloses a leaflet with the trade package, giving "Other Uses for Lucky Tiger." This leaflet praises the product as an "unfailing remedy for chigger, mosquito and other insect bites," and especially recommends the preparation for "tired, aching and sore feet."

Reports have come to THE JOURNAL of severe cases of skin irritation following the use of Lucky Tiger. A Wisconsin physician reported a most severe acute dermatitis, followed by a marked eczema, which literally covered the head with crusts, following the use of the preparation. A physician in the state of Washington reported a case of dermatitis venenata of the scalp, face, neck and upper chest following its use. A physician connected with the dermatologic department of a state university reported that a patient had aplied Lucky Tiger to her scalp and some evidently ran down on her face and neck, producing a severe dermatitis.

In view of these reports, a bottle of Lucky Tiger was purchased on the open market and turned over to the A. M. A. Chemical Laboratory for analysis. The laboratory report follows:

"One original bottle of Lucky Tiger Hair Tonic (Lucky Tiger Remedy Company, Kansas City, Mo.) was submitted to the A. M. A. Chemical Laboratory for examination. The bottle contained approximately 350 cc. (12 fluidounces) of a green colored, highly perfumed liquid. On the label appears the following declaration: 'Not over 60% alcohol.' The solution was alkaline to litmus. The amount of solids found was 1.2 per cent and the ash was 0.23 per cent. Qualitative tests indicated the presence of salicylate, arsenic (in the form of arsenite), sodium, ethyl alcohol and methyl alcohol; a trace of potassium was also present. Alkaloids, chloride, iodide and borate were not found.

"Quantitative determinations yielded the following:

Specific gravity at 20 C.	0.9414
Sodium salicylate (determined as salicylic acid)	0.47 per cent
Arsenic (calculated as sodium arsenite)	0.15 per cent
Ethyl (grain) alcohol* (by volume)	37.74 per cent
Methyl (wood) alcohol* (by volume)	8.70 per cent

* The ethyl and methyl alcohol determinations were made according to the A. O. A. C. method, employing the use of the refractometric index on the purified distillate.

"From the foregoing analysis, it is concluded that Lucky Tiger consists essentially of ethyl (grain) alcohol, methyl (wood) alcohol, sodium salicylate and sodium arsenite. The amount of arsenic present as sodium arsenite is about one-tenth as much as found in solution of potassium arsenite (Fowler's solution). It will be remembered, however, that the dose of the latter is only 0.2 cc. (3 minims). As the average application uses much more than three drops, it readily can be appreciated what a relatively strong solution of arsenic this is."

It is evident from the chemists' report that this preparation is one that has no place among legitimate home remedies. Not only are the claims made for the preparation false and fraudulent, but the stuff is also misbranded as to composition (alcohol content), and, if we are not mistaken, because of the presence of the dangerous wood alcohol, it would also be declared adulterated under the federal law.

LUKOSINE NOT ACCEPTABLE FOR N. N. R.—II

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report.

W. A. Puckner, Secretary.

Since publication of the report "Lukosine Not Acceptable for N. N. R.," in The Journal, Feb. 26, 1927, p. 667, the National Drug Company has informed the Council that the quantitative formula for Lukosine is given in its price list and in its "revised advertising." The firm sent a copy of the latter, which contains the following formula:

"Boric Acid	80.5 per cent
"Alum	9.2 per cent
"Zinc Sulphate dried	4.0 per cent
"Zinc Phenolsulphate [Phenolsulphonate?]	2.5 per cent
"Sodium Salicyclate	2.5 per cent
"Phenol	1.0 per cent

"rendered pleasantly aromatic with a blend of Thyme, Peppermint, Eucalyptus and Methyl Salicylate.

"Each heaping teaspoonful contains 1/75 grain of Hydrastine White Alkaloid."

In view of this the Council's statement is now revised by the omission of the word "semisecret" to read: "Lukosine is unacceptable for N. N. R. because it is a needlessly complex, and therefore irrational, mixture, marketed with a therapeutically suggestive name and with unwarranted therapeutic claims, in such a way as to lead to its indiscriminate and ill advised use by the public."

Correspondence

NURSES' RECORDS AND HOME NURSING

To the Editor:—During the last few years I have noticed that an increasing number of nurses who are sent to private homes are careless about keeping records. This applies to those who are graduates of the better nursing schools as well as to those who hold diplomas from less well known institutions. It is needless to say that a carefully kept record is an obligation which the nurse owes to the patient as well as to the physician.

In days gone by, when nurses were receiving one-half the remuneration which is being given them today and were working twice as many hours, they prided themselves on the neatness and accuracy of their record sheets. Today they frequently do not keep any record at all or use a scrap of paper on which they jot down illegible notations in a haphazard and unsystematic way.

In a severe case of measles-pneumonia that occurred in one of my patients seen last winter, no record was started by the nurse because she did not know whether I required it. This was only one of numerous instances in which the nurse did not begin a record at all, or kept such a poor report that she herself had difficulty in deciphering it.

As a rule the nurse even fails to bring with her the ordinary printed forms which are used in the hospital and which are quite as important in practice outside an institution.

I am writing to The Journal to ascertain whether my experience is a general one, and if it is, what has been the cause for this poorer service. Is it possibly the physician's fault because he does not demand a higher class of service outside the hospital? Is it possibly due to the fact that the nurses are no longer being trained for bedside work in the home, or is it the result of some other deficiency in their training? May it not be due to the fact that in most instances nurses are assigned to their cases from a large central registry, instead of being sent from their own hospital as was formerly the case? Perhaps the elements of discipline and pride in their own institution no longer exist.

Is it not just that we should expect a well qualified trained nurse to go to the bedside of her patient prepared to organize the sickroom, to make the necessary observations, and to report them as befits the dignity of one who belongs to a trained professional service?

Isaac A. Abt, M.D., Chicago.

"ENORMOUS NUMBER OF GALLSTONES IN A PATIENT"

To the Editor:—In your issue of July 2, page 45, your Rio de Janeiro correspondent reported a case in which 1,445 gallstones were removed by Professor Brandão Filho. Quite a number of years ago, I had a case in which I removed more than 4,000 gallstones. (The nurse counted 4,000 and said there were a few more around on sponges, but she thought that was enough!) I thought I had perhaps broken the record, but when I looked the matter up I found that 17,000 had been reported, and so said nothing about it.

J. F. Baldwin, M.D., Columbus, Ohio.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ENO—FLY EXTERMINATORS

To the Editor:—Please tell me: (1) the composition of Eno, the laxative salt; (2) the composition of one or two of the extensively advertised fly and mosquito exterminators, such as Dethol and Flit.

W. L. Stevenson, M.D., Covington, La.

Answer.—1. "Eno" in this country has for years been known and sold as "Eno's Fruit Salt" in the British Isles. There have been various analyses made of it and they seem to agree in general in declaring that the stuff is essentially a mixture of baking soda, sodium bitartrate and tartaric acid. This means that the product is very similar to ordinary seidlitz powders, except that sodium bitartrate is substituted for the rochelle salt used in the seidlitz powders.

2. The Chemical Laboratory of the American Medical Association has not investigated the various fly sprays on the market. In the *Druggists Circular* for July, 1922, page 256, appeared a report by George E. Ewe on the composition of some commercial fly repellents. According to this report, the commercial fly repellents depend on their content of disagreeably odorous and tasting constituents for what measure of repelling action they possess. It is stated in the report that one product consisted of crude petroleum and contained phenolic compounds.

It is our understanding, however, that the type of fly repellent most popular at the present time consists largely of refined hydrocarbons, such as kerosene or deodorized kerosene (at times carbon tetrachloride is added), and that they contain an extract of pyrethrum flowers. The pyrethrum flowers may be extracted with the kerosene, in proportion of 1 pound of pyrethrum flowers to one gallon of kerosene, or a commercial extract may be purchased and dissolved in the hydrocarbon base. To the product is also added such aromatic

substances as oil of wintergreen, oil of eucalyptus, "oil of cedar," and "sassafras." What the relative efficiency of these preparations is we do not know, nor have we seen studies in which the fly preparation has been subjected to comparative tests with deodorized kerosene without the extract from pyrethrum flowers. The Hygienic Laboratory of the U. S. Public Health Service, Treasury Department, and the Bureau of Entomology, Department of Agriculture, have issued reports on muscicides and other fly-destroying agencies.

REMOVAL OF MOLES

To the Editor:—I am interested in the indications and contraindications for the removal of moles. Could you either give me information or refer me to the proper authority? Please omit my name. M.D., Chicago.

ANSWER.—There is no indication, except a cosmetic one, for the removal of moles up to the age of 40. Deeply pigmented moles especially should be left strictly alone. Ordinary light brown nonhairy or hairy moles may be safely removed with the electrocautery, by electrolysis, by freezing with carbon dioxide snow or by surgical ablation. In later life when moles show a tendency to grow, to become rough and warty, or are in danger of being irritated, as by shaving, they should be removed before degenerative changes have taken place. There are in the literature numerous instances of malignancy developing from a nevus as a result of traumatism, irritation or improper treatment. There are no contraindications for the removal of moles except in the case of the flat, black melanotic growths, which are best left undisturbed.

DIGITALIS AND STROPHANTHIN

To the Editor:—In reference to strophanthin, the Epitome of the Pharmacopeia says, "Caution should be used, especially if patient has been taking digitalis"; also, "absorption from the alimentary canal is so variable that its administration by mouth is inadvisable." Shattuck of Boston writes: "Death may result if the patient has taken any preparation of the digitalis group within one week" and takes strophanthus. In spite of this we find the Chicago Chemical Company, Otis Clapp & Son of Boston, and many other houses putting out tablets containing digitalis and strophanthus in combination. Being interested in several heart cases in which there was poor compensation, I am very much interested. A year ago, I advised a patient to take 25 drops of tincture of digitalis three times a day for a week, and the next week to take a tablet of the Chicago Chemical Company, containing 3 minims of tincture of strophanthus four times daily, alternating these remedies each week. The patient has thrived and grown better on this treatment, but perhaps according to the late authorities my advice was not good. I am rather "up in the air," as some patients cannot take digitalis and your authorities advise giving strophanthus only hypodermically, on account of irritant action and poor absorption. As this patient lives miles away he cannot receive the hypodermic injections needed, but he seems to have no trouble by the alternating of digitalis and strophanthus. I am writing for enlightenment. ARTHUR JOHN TENNEY, M.D., Branford, Conn.

ANSWER.—Strophanthin is intended for intravenous or intramuscular injection exclusively, and since it is recommended for use in emergencies in which the full therapeutic action—not the full therapeutic effect—must be induced within an hour or so, the dose recommended is correspondingly large compared to the fractional doses of digitalis which are administered orally. It follows, therefore, that if nearly a full therapeutic dose of digitalis has been taken recently, and a full therapeutic dose of strophanthin is injected, the patient will have received nearly twice as much as he requires, because the action of the digitalis previously given remains in effect and this is added to the action of the strophanthin. It is for this reason that caution is recommended when strophanthin is given shortly after a course of treatment with digitalis. Sometimes strophanthus is absorbed slowly; sometimes the greater part of several successive doses remains in the gastro-intestinal tract and is absorbed rapidly, leading to poisoning. It is because of this irregularity of absorption that it is now commonly held that strophanthus is not suited for oral administration. One can easily understand that the rapid absorption of the greater part of several successive doses produces the same effect as the intramuscular injection of an average dose of strophanthin, and its use after a course of treatment with digitalis involves the same danger as the injection of strophanthin.

It is the consensus of those who specialize in the treatment of cardiac disease that combinations of digitalis and strophanthus are irrational, the reason being obvious from what has just been stated, though no one denies that many patients are benefited by treatment with strophanthus.

It is well known that many cardiac patients who fail to improve with full digitalization owing to some unknown condition show marked improvement when the same specimen of digitalis is given subsequently, the presumption being that some function of the heart has become so altered that the latter is able to respond favorably to treatment with digitalis. Such cases afford opportunities for attributing extraordinary value to any digitalis preparation that the clinician happens to employ in the second course of treatment. Dr. Harry Gold reported to the Heart Committee of the New York Tuberculosis and Health Association, April 24, 1927, that during an experience of five years in a cardiac clinic, during which time more than 500 patients were treated with four different specimens of active powdered digitalis leaf in the form of compressed tablets for periods varying from a few months to several years, there was not one instance in which it was found necessary for any reason to resort to any other form of digitalis medication.

FUMIGATION AFTER INFECTIOUS DISEASES

To the Editor:—Is there any value in fumigation after infectious diseases—scarlet fever, tuberculosis, diphtheria, smallpox? Is it possible for the disease to be transmitted by books or clothing, and if so for how long? I have been old fashioned enough to practice fumigation on the ground that if it did no good it certainly did no harm, and I still am as careful as possible to prevent the spread of these diseases, notwithstanding the quite prevalent teaching of many of our health authorities that fumigation is valueless and that it is safe for smallpox patients to send letters and that about all that is necessary in treating one of these diseases is first to dip the sheets, towels and other articles of clothing in an antiseptic solution; to forget all else during the illness and after quarantine is removed. FREDERICK A. RHODES, M.D., Los Angeles.

ANSWER.—Most pathogenic organisms become inert within a short time outside the body unless they find an especially suitable medium for growth and development. When exposed to sunshine and fresh air they rapidly lose their virulence and power to grow. By the time a patient has recovered from diphtheria or scarlet fever and positive cultures are no longer obtained from the nose and throat, there is little danger from the room he has occupied, and at the termination of quarantine simple but thorough house cleaning is all that is necessary.

The early detection of "carriers" in the family and among those who have been in close contact with the patient is of great importance. Mild infections should be investigated carefully. Facilities for making reliable cultures should be available in every community.

As long as the patient is ill and secretions are profuse, great care is necessary in order to prevent the spread of infection. Tongue depressors, culture swabs, mouth sponges and dressings should be placed in paper receptacles at the bedside and promptly burned. Dishes and linens should be boiled. Excreta and bath water should be well mixed with chlorinated lime previous to disposal.

All persons who enter the isolation area should have clean hands. Coats should be removed and sleeves rolled above the elbows. A washable cap and gown should be worn in order to protect the hair and clothing from contamination from the patient and things about him. When cultures are made, a mask should be worn for protection. After the examination of the patient the mask, cap and gown should be removed to be cared for properly, and the hands cleansed thoroughly with soap and running water before one leaves the isolated area. Articles such as the stethoscope or the thermometer should be washed carefully with soap and water. Books, mail, clothing or other articles contaminated by fresh infectious secretions are dangerous if handled by others before they have been thoroughly dried and exposed to sunshine and fresh air. But such objects, furnishing neither moisture nor a medium on which bacteria can grow, do not provide the conditions necessary for their prolonged life.

When a patient dies in the acute stage while discharges from the mucous membranes carrying virulent infection are abundant, the contaminated area is especially dangerous. But even under such circumstances simple methods of disinfection are safer than fumigation. All contaminated linen, dishes, utensils and things that can be sterilized by boiling should be boiled. All garbage, books, papers, toys and the like should be burned. Furniture, floors, woodwork, windows and walls, especially about the patient's bed, which may have been smeared or sprayed by fresh secretions, should be scrubbed with soap and water. Mattresses and pillows that have been protected from gross infection by pads, rubber cloth or newspapers should be thoroughly sunned and aired before being put to use. Rubber sheets and hot water bottles are safe for use after being scrubbed with soap and water and hung in the sunshine to dry.

The most common methods by which communicable diseases are spread from the sick to the well are too often overlooked.

Now, persons are the usual conveyors of infection. Fresh infectious secretions from the upper respiratory tract of the patient or the "carrier," deposited on dishes or other objects, may be directly transferred in the moist state to others. The hands of persons handling contaminated things frequently transfer infection. In using the handkerchief the patient smears fresh discharges on his fingers, which in turn may clasp the hands of his friends or touch objects handled by others, who may carry the infection directly to their own mucous membranes. The hands of those who care for the patient are obviously dangerous. In examining or cleansing the mouth, nose, ears or eyes, or in touching the bedding the fingers are often smeared with infectious material which can easily be carried over to others unless the hands are cleansed most carefully.

From the standpoint of community welfare, medical asepsis is highly important and yet it lags far behind surgical asepsis. If careful medical asepsis were taught the medical student who will set the standards for the next generation, the results doubtless would be better control of communicable diseases. We need to develop the aseptic conscience and teach medical students and people generally, especially mothers of young children, the value of simple isolation at the onset of any symptoms of acute illness, and the necessity for simple measures to prevent transfer of infection, such as careful cleansing of the hands after touching the patient or contaminated things. These procedures are vitally important in the prevention of the spread of contagion. Personal cleanliness, mechanical cleansing of contaminated areas, and the boiling or burning of articles grossly contaminated are much simpler and safer than the use of antiseptics and fumigation, which often do little more than to give a false sense of security and leave a disagreeable odor.

PRURITUS VULVAE

To the Editor:—Could you suggest a remedy for pruritus vulvae? My patient has normal uterus and adnexa, microscopic examination has been negative, and there is no discharge. The introitus is inflamed, and on this red base there are a few white papules. It spreads to the vagina and lasts until the menses are well established. Alkaline enemas have helped a good deal, but otherwise no ointment or lotion has had any effect. Please omit name. M.D., South Dakota.

ANSWER.—It is impossible to offer any intelligent suggestions for such a case. The subject will be found discussed more completely than can be done in a reply in any of the standard textbooks on skin diseases.

THE WASSERMANN TEST

To the Editor:—May I refer a case to you for an opinion on the value of a Wassermann test: The patient was in the navy, where he had chancroids and for which mercury was given according to his story and later arsphenamine; but no test has ever been reported positive, although there have been at least a half dozen made in as many different laboratories. These tests were made not because of symptoms that were particularly suggestive and I can not elicit any of the positive symptoms at any time in his story. He consulted me before marriage nearly two years ago, and I thought it absolutely safe and his wife and child have not shown signs of the trouble. Following some slight dizzy spells for which he did not consult any one, he had a severe convulsion without paralysis, was unconscious four hours and was rational after from twenty-four to thirty, with a 26,000 white count, no fever, a bloody spinal fluid and slow pulse (50), vomiting for twenty-four hours, and prompt recovery. He says that after two weeks he felt better than he had for five years. Both spinal fluid and blood were examined and gave negative results; likewise the colloidal gold test. The patient is 29 and does not show signs of other pathologic changes. Another physician seeing him with me thought he should be treated for syphilis, whatever the result of the Wassermann test, which we did not have then. Can you refer this to some one or make suggestions in any way? Please omit name. M.D., Montana.

ANSWER.—A negative is necessarily much more difficult of proof than a positive. Nevertheless, negative results with six different Wassermann tests coupled with negative observations in the spinal fluid and the absence of clinical symptoms of syphilis at any time render the presence of syphilitic infection extremely improbable. It might be well to give a provocative dose of 0.3 Gm. of neoarsphenamine and then repeat the Wassermann test with the blood. The occurrence of a severe convulsion may be due to many conditions other than syphilis. It is not clear from the description whether the blood in the spinal fluid was due to trauma of a vessel at the time of the puncture; if it was, the blood would not be evenly mixed and the later portions of the fluid would be relatively clear; the significance of this would be nil. If the blood was evenly mixed, it would suggest some vascular disease or injury and one might even consider the possibility of an aneurysm. The high leukocyte count offers the possibility of some infection, though one would expect to find an associated fever. Careful studies should be made to determine whether there is an intracranial tumor—eye examinations, including the visual fields, and a detailed neurologic investigation. The preceding attacks of dizziness, the prolonged unconsciousness and the signs of increased intracranial pressure all suggest some serious intracranial lesion.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

AMERICAN BOARD FOR OPHTHALMIC EXAMINATIONS: Detroit, Sept. 12. Sec., Dr. W. H. Wilder, 122 S. Michigan Blvd., Chicago.

ALASKA: Juneau, Sept. 6. Sec., Dr. Harry C. DeVighne, Juneau.

CONNECTICUT: State Board of Healing Arts, New Haven, Oct. 8. Prerequisite to examination. Chairman, Dr. Charles M. Bakewell, Box 1895, Yale Station, New Haven.

MONTANA: Helena, Oct. 4-6. Sec., Dr. S. A. Cooney, Power Blk., Helena.

NEW HAMPSHIRE: Concord, Sept. 8-9. Sec., Dr. Charles Duncan, Concord.

OKLAHOMA: Oklahoma City, Sept. 13-14. Sec., Dr. J. M. Byrum, Shawnee.

PORTO RICO: San Juan, Sept. 6. Sec., Dr. D. D. Biascoechea, Box 804, San Juan.

Georgia June Examination

Dr. B. T. Wise, secretary of the Georgia Board of Medical Examiners, reports the written examination held at Augusta and Atlanta, June 8-9, 1927. The examination covered 10 subjects and included 100 questions. An average of 80 per cent was required to pass. Sixty-one candidates were examined, all of whom passed. Seven candidates were licensed by reciprocity and one by endorsement of his credentials. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent
Yale University School of Medicine	(1925)	91
Emory University School of Medicine	(1927)	86.6
88.5, 89.5, 89.7, 89.8, 90, 90, 90.1, 90.5, 90.8, 91.1, 91.3, 91.4, 91.5, 91.6, 91.7, 91.7, 91.8, 92, 92.1, 92.3, 92.4, 92.7, 93, 93, 93, 93.5, 93.8, 94.1, 94.5, 95.6, 95.6.		
University of Georgia Medical Department	(1927)	87.5
89.7, 89.8, 90.4, 90.4, 91, 91, 91.2, 91.2, 91.6, 92, 92, 92.1, 92.2, 92.3, 92.4, 93, 93.3, 93.5, 93.6, 94.2, 94.3, 94.4, 94.6, 94.6, 95.9, 96.1.		
Eclectic Medical College, Cincinnati	(1927)	86.6
Meharry Medical College	(1927)	92

LICENSED BY RECIPROCITY		
College	Year Grad.	Reciprocity with
State University of Iowa College of Medicine	(1922)	Iowa
Kentucky University Medical Department, Louisville	(1904)	Kentucky
Tulane University of Louisiana School of Medicine	(1925)	Louisiana
Meharry Medical College	(1925)	Tennessee
Vanderbilt University School of Medicine	(1921)	S. Carolina
University of Virginia Department of Medicine	(1923)	Virginia

ENDORSEMENT OF CREDENTIALS		
College	Year Grad.	Endorsement with
National University of Athens, Greece	(1909)	Ohio

Kentucky June Examination

Dr. A. T. McCormack, secretary of the Kentucky State Board of Health, reports the written examination held in Louisville, June 21-23, 1927. The examination covered 11 subjects and included 110 questions. An average of 75 per cent was required to pass. Of the 71 candidates examined, 70 passed and 1 failed. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent
Hospital College of Medicine, Louisville	(1906)	76
University of Louisville School of Medicine	(1926)	82
(1927) 74, 76, 79, 80, 80, 81, 81, 81, 82, 82, 82, 82, 82, 83, 83, 83, 83, 83, 83, 83, 83, 83, 84, 84, 84, 84, 84, 84, 85, 85, 85, 85, 85, 85, 85, 85, 86, 86, 86, 86, 87, 87, 87, 87, 87, 88, 88, 88, 89, 89, 91, 91, 92, 92, 98.		
Johns Hopkins University Medical Department	(1924)	86
Cornell University Medical College	(1925)	86
Eclectic Medical College, Cincinnati, Ohio	(1927)	79
81, 81, 82, 82.		
University of Cincinnati College of Medicine	(1926)	80, 85

FAILED		
College	Grad. Year	Cent
University of Louisville School of Medicine	(1927)	79

Book Notices

OUR OWN AND OUR COUSINS' EYES. By Thomas Hall Shastid, A.M., M.D., F.A.C.S. Cloth. Price, $1. Pp. 199. Southbridge, Massachusetts: American Optical Company, 1926.

In this lecture the author provides a comparative study of the eyes of fishes, reptiles and mammals, leading to a brief discussion of the human eye as it exists today. Man is at present a near-looking animal. Nature is trying to help him by strengthening the focusing apparatus for near points. Dr. Shastid believes that the eye of the future will be a normal-sighted eye supplied with strongly developed focusing apparatus for near objects. The field of view will become smaller and smaller. He anticipates a future in which the human eye will be microscopic and telescopic.

SAVING EYESIGHT AFTER MID-LIFE. By John Herbert Waite, M.D., S.M., Instructor in Ophthalmology, Harvard Medical School. Cloth. Price, $1. Pp. 48, with illustrations. Cambridge: Harvard University Press, 1927.

The Harvard Health Talks now include fifteen subjects, well presented for general audiences. This book on eyesight may be recommended to any reader. It concludes that a periodic examination by an oculist is necessary because of the insidious onset of degenerative disease of the eye, that cataract may be part of a systemic condition of which changes in the lens are but one manifestation, and that glaucoma can usually be held in check if the patient will secure early optical examination.

THERAPIE DER ORGANISCHEN NERVENKRANKHEITEN. Von Privatdozent Dr. Max Schacherl, Vorstand der Neuroluesstation am Kaiser Franz Joseph-Spital in Wien. Paper. Price, 6.90 marks. Pp. 141. Vienna: Julius Springer, 1927.

The author is chief of the neurosyphilitic department of Professor Wagner-Jauregg's clinic in Vienna and thus disposes of a huge clinical material. The methods discussed and recommended are those which years of experience have taught him to be those most useful. As might be expected, eight of the fourteen lectures deal with syphilitic nervous diseases. Mercury, bismuth, iodides, the arsphenamines and the various forms of fever therapy, old and new, are discussed fully. The more important other organic diseases are taken up, and electrotherapy and hormone therapy have a chapter each. As indicated by the title, only the organic diseases are discussed. The author still uses neoarsphenamine intraspinally, which he declares to be without danger. No mention is made of cistern puncture and injection, nor is tryparsamide mentioned. In multiple sclerosis a combination of fever therapy, arsphenamine and calcium salts is recommended. In the acute stage of encephalitis the author uses Pregl's iodide solution: in the chronic stage, scopolamine and sodium cacodylate, sometimes together with parathyroid and calcium. The chapter on hormones is not abreast of the times.

THE HARVEY LECTURES. Delivered Under the Auspices of the Harvey Society of New York, 1925-1926. Under the Patronage of the New York Academy of Medicine. Series XXI. By Dr. F. R. Nager, Dr. John H. Northrop, Dr. Warren H. Lewis, Dr. Edwin B. Wilson, Dr. Knud Faber, Dr. B. Brouwer and Dr. J. B. Collip. Cloth. Price, $4. Pp. 229, with illustrations. Baltimore: Williams & Wilkins Company, 1927.

The annual volume of the Harvey Lectures presents some significant contributions in medical fields, reflecting indeed the high points in progress for the past two years. Problems in otology are discussed by Dr. F. R. Nager of the University of Zurich, pepsin and trypsin by Dr. John H. Northrop of the Rockefeller Institute, blood changes by Warren H. Lewis of the Carnegie Institution, the parathyroid glands by Dr. J. B. Collip, and comparative anatomy and neuropathology by Dr. B. Brouwer of the University of Amsterdam. Two general essays will have great interest for every medical reader. They are empiricism and rationalism by Dr. Edwin B. Wilson of Harvard University, and a historical outline of medical therapy by Dr. Knud Faber of the University of Copenhagen. Dr. Wilson condemns primarily machine-like research which is death to thought. Dr. Faber discusses the philosophy of therapy, tracing its growth from the simple drug to the use of nonspecific protein therapy. It is impossible to distinguish between therapy for the alleviation of symptoms and that for influencing the course of the disease. We must recognize, however, that only the remedy which strikes at the cause is in the real sense of the word curative.

THE CLINICAL INTERPRETATION OF BLOOD CHEMISTRY. By Robert A. Kilduffe, A.B., A.M., M.D., Director of Laboratories, Atlantic City Hospital. Cloth. Price, $2.50. Pp. 186, with 20 illustrations. Philadelphia: Lea & Febiger, 1927.

The average practitioner of medicine is hardly competent to undertake the laboratory study of the blood that is a part of the modern development of physiologic chemistry. On the other hand, the study of the chemistry of the blood offers a vast amount of valuable information in the diagnosis and treatment of disease. Dr. Kilduffe's book is planned primarily for the general practitioner with a view to aiding him in the collection of blood from a patient on whom a chemical study of the blood must be made and then to help him interpret the results submitted to him by the laboratory. The book is written in simple form and provides a large amount of data of practical value. Several chapters on the use of insulin give briefly many essential facts relating to the modern treatment of diabetes.

TRAITÉ DES MALADIES DE LA PROSTATE. Par Georges Luys. Prostatectomies et tumeurs malignes. Par Victor Pauchet, chirurgien de l'Hôpital Saint-Michel. Paper. Price, 90 fr. Pp. 680, with 462 illustrations. Paris: Octave Doin, 1926.

This large and profusely illustrated volume is the result of an enormous experience with diseases of the prostate. The authors are among the leaders of French urologic thought and their work is inclusive and reliable. The first half of the book considers the treatment of diseases of the prostate gland and is by Georges Luys, while the second half, which details the surgical measures directed toward the relief of lesions of the gland, is by Victor Pauchet. The anatomy and physiology are thoroughly covered. An important chapter on the clinical examination of prostatic lesions is splendidly written. Radiologic examination is not given a high place in the various procedures used in diagnosis. Hypertrophy of the prostate is taken up in a coherent manner, with rather clearer elucidation than is usually noted. The microscopic changes in prostatic hypertrophy are thoroughly considered, and frequent reference is made to the foreign literature. The various methods of perineal prostatectomy are completely outlined and illustrated. Hugh Young's method is illustrated in full. Preliminary ligation of the vas is recommended as a prophylactic procedure against epididymitis. The suprapubic route is also thoroughly detailed. Regional anesthesia is given its appropriate place. A large chapter on "forage de la prostate," a method that has been gaining ground in this country since the perfecting of the high frequency currents for this work, is well written and instructive. In the discussion of evacuation of prostatic abscess a method is illustrated which cuts through the recto-urethralis muscle, which would seem unnecessary and undesirable, because often the diaphragm of the perineum is permanently weakened, thus resulting in a lack of erectile power in a young person. As a whole, the volume must be considered as a valuable addition to the literature on prostatic surgery and merits the attention of every urologist who reads French.

APPLIED PHYSIOLOGY. By Samson Wright, M.D., M.R.C.P., Department of Physiology, Middlesex Hospital Medical School. With introduction by Swale Vincent, M.D., LL.D., D.Sc., Professor of Physiology, University of London. Cloth. Price, $4.50. Pp. 418, with 37 illustrations. New York: Oxford University Press, 1926.

The medical student is concerned primarily with the facts of physiology. The practitioner of medicine deals with applied physiology; that is to say, with the functions of the body in health and in disease. The book by Dr. Wright is therefore perhaps the most useful work on physiology for the practitioner that has yet been available. In discussing the functions of the various portions of the spinal cord, he deals also with such symptoms as lightning pains and the various forms of paralysis. He discusses the reflexes in their relationship to disease. A section on the parathyroid glands

is followed by a consideration of tetany and rickets. The chapter on muscular exercises provides the physical and chemical changes in muscle during activity and then the functions of respiration and the metabolism of oxygen associated with muscle action, leading finally to a consideration of dyspnea. The physiology of the gastro-intestinal tract is associated with a discussion on constipation and diarrhea. The author has carefully selected his literary references and provides after each section one or two references of importance for those who wish more extensive reading. In general, the book may be especially recommended to the physician who wishes to keep himself abreast of physiologic investigation that may be of service to him in the practice of medicine.

THE EMBRYOLOGY OF THE PIG. By Bradley M. Patten, Associate Professor of Histology and Embryology, School of Medicine, Western Reserve University. Cloth. Price, $3.50. Pp. 323, with 168 illustrations. Philadelphia: P. Blakiston's Son & Company, 1927.

The fundamental facts of mammalian development from a dynamic point of view are presented on the basis of a single species. Only recently have the greatest gaps in our knowledge of the development of the pig been filled; much of this work has come from the Baltimore anatomists, notably Streeter, Sabin and Heuser. The author has made the most of these studies with their splendid photographs and drawings. His attitude toward the student is that of a guide on an interesting journey, and the dreary pedagogue would do well to adopt something of this point of view and more of the freshness of illustration. Thus: "The embryo in his private amniotic aquarium," or "We may liken the matrix of bone to reinforced concrete." Under these conditions we may forgive occasional loose and superficial explanations of events. The chapters on the early stages present new and some unpublished work and are especially good. They are followed by a detailed description of the 9 to 12 millimeter stages usually used in laboratory courses. The subsequent chapters on organogeny are variable in quality and interest. Under the nervous system an unsuccessful attempt is made to present the fundamental structure and functions of the adult nervous system as well as a little of the development. The chapters on the vascular and skeletal systems are detailed and excellent. Especial care has been taken with illustrations and legends, and the bibliography is good.

PLÖTZLICHE UND AKUTE ERKRANKUNGEN DES NERVENSYSTEMS: Ihr Erkennen und ihre Behandlung. Vorlesungen, gehalten vor reiferen Studierenden und Aerzten. Von Prof. Dr. S. Fleischmann. Paper. Price, 12 marks. Pp. 301, with 56 illustrations. Berlin: S. Karger, 1927.

In discussing the sudden and acute diseases of the nervous system, Fleischmann considers in some detail the apoplexies, cerebral thrombosis, embolism, the acute infections, traumatic lesions, and toxic diseases of the nervous system. He discusses convulsive seizures and describes the painful conditions of nervous origin and psychogenic disturbances. These types are discussed thoroughly and in a simple but lucid manner. The practical aspects of each condition are well gone into, so that the practitioner may know after reading this book exactly what to do in any sudden or acute disease. Although the book is composed of sixteen lectures given before general practitioners, the neurologist may gain much from studying it. The book is needed in the physician's library, as little of the necessary material that it contains is found in any of the general textbooks.

THE PRINCIPLES OF PATHOLOGY. By Charles Powell White, M.D., F.R.C.S., Honorary Lecturer in Pathology and Director of the Helen Swindells Laboratory in the University of Manchester. Cloth. Price, $6. Pp. 279. New York: Longmans, Green & Company, 1927.

There are no references to literature and no illustrations in this work. The author frankly states that it is an expression of personal opinion. There are a few charts for such matters as age and distribution of deaths, with diagrams to explain heredity. It is an attempt to systematize pathology, as other biologic sciences, botany and zoology for example, have been systematized. It is consequently replete with definition and nomenclature. The processes of disease are arranged, defined and pigeonholed seriatim without much attempt to dwell on their details. This has required extensive numbering of topics and their subdivisions, also some pages devoted to schematic arrangement of subjects subsequently mentioned briefly in short separative paragraphs and in the order diagramed. The skeleton of general pathology, with all its larger and minute components carefully articulated, is thus bared for contemplation. Nevertheless there is a large amount of information presented in an attractive form. The difficulty of interweaving interesting brief comments into what is so largely a syllabus has been admirably done. Those who are beginning the study of medicine will find this an excellent supplement to other works on pathology.

TEXTBOOK OF DISEASES OF THE SKIN AND SYPHILIS. Designed for the Use of Students and Practitioners. By Albert Strickler, M.D., Professor of Dermatology and Syphilology, Temple University, Department of Medicine. Cloth. Price, $8. Pp. 689, with 218 illustrations. Philadelphia: F. A. Davis Company, 1927.

The author says in the foreword that his experience as a teacher has shown him the need for "a textbook on dermatology constructed on sound pedagogical principles"; he says further that he means by this based "on logic." He then calls particular attention to certain features of his book and says that "so far as possible the etiologic classification of the diseases of the skin has been adopted." A preface is interesting, as indicating the work the author has laid out for himself and his feeling about the result. From this foreword the author apparently has laid out a rather ambitious scheme and is not altogether dissatisfied with the result.

The work may be characterized, however, as a quite commonplace description of dermatoses with nothing original in the treatment of the subject. On the whole, it falls much below the standard of numerous other well known textbooks on dermatology. A few illustrations justifying this judgment may be given: In a book based on sound principles, the anatomy and the physiology of the skin get twelve pages, cutaneous pathology gets three pages, cutaneous bacteriology gets half a page—and these, not a condensed summary of the large facts but a casual loose statement. The chapter on eczema has the old familiar sound of dermatology of the early Victorian era. Eczema erythematosum, eczema papulosum, eczema vesiculosum, eczema pustulosum, eczema squamosum, eczema rubrum are taken up separately, each given a separate description; the students and practitioners for whom the book is designed would hardly get the impression that they are all manifestations of one process. A lack of exactness is frequently manifested in the book. On page 116, for example, "multiple tumors of the skin accompanied by intense pruritus" is put down as a synonym of prurigo nodularis. The only justification for offering that as a synonym is that Schamberg and Hirschler early described this condition, not as multiple tumors of the skin accompanied by intense pruritus but as "multiple tumors of the skin associated with itching"—a small thing, but indicating a lack of appreciation of scientific niceties. There is an utter lack of balance in the attention given to various subjects. For example, to the whole group of parapsoriases, which if any mention is made of them should at least have enough description to indicate what they are, a little more than half a page is given. To prurigo, on the other hand, next following it, which is entitled hardly to one tenth as much space, a page and a half is given. Then, in the same section, on inflammatory dermatoses, a few pages farther on, less than five pages are given to the whole topic of occupational diseases. A good illustration of the sound pedagogic principles meets one's eye next in this chapter on inflammatory dermatoses. Under the subject of inflammatory dermatoses dermatitis factitia is followed by acne, which bears about the same logical relation to inflammatory dermatoses that infections of the gallbladder bear to sunburn. Three and a half pages are given to dermatitis herpetiformis, three fourths of one page of which is used by a picture labeled "dermatitis herpetiformis" but which might be anything, while quickly following this, another three and a half pages are given to pompholyx, which most dermatologists regard no longer as an entity at all but a manifestation of ringworm. Of this fact the reader would get no intimation except that under diagnosis the author says the differentiation between these two conditions "rests mainly upon the presence or absence of the ringworm fungus" (p. 182).

The work is abundantly illustrated with pictures, some of which are very good, many of which are valueless. Some of the pictures are open to doubt as to the diagnosis. For example, all the illustrations except one given as seborrheic dermatitis, but described in the legends as seborrheic dermatitis resembling psoriasis, namely, figures 39, 40 and 41, bear little or no resemblance to the disease which they are supposed to illustrate. They may be seborrheic dermatitis; they may be psoriasis, or they may be something else. The picture of pityriasis rosea (p. 151) is a picture of certainly a rare type of pityriasis rosea if pityriasis rosea at all. The colored picture of xeroderma pigmentosum (p. 179) reminds one of a colored picture of a sort that might have been taken from Bateman atlas of 1830. It looks more like erysipelas than anything else. It certainly bears no resemblance to xeroderma pigmentosum.

LES CANCERS DU SEIN. Par Pierre Delbet, professeur de clinique chirurgicale à la Faculté de médecine de Paris, et Mendaro, assistant étranger à la clinique du professeur Delbet. Paper. Price, 50 francs. Pp. 339, with illustrations. Paris: Masson & Cie, 1927.

This monograph is one of a number of the "Annales de la clinique chirurgicale du professeur Delbet." It is essentially a contribution to the prognosis of cancer of the breast. The results of study of the microscopic structure of material accruing from 353 operations form the major portion of the work. The operations included amputation of the breast and removal of the subclavicular and axillary lymph glands, and the axillary adipose tissue. Brief but satisfactory descriptions of the symptoms, diagnosis, prognosis, and operative and nonoperative treatment are included. The central theme is the relative malignancy of the many histologic varieties of carcinoma of the breast. It was learned that for about 45 per cent of all the mammary carcinomas the histologic structure warrants a favorable prognosis, and for about 25 per cent the microscopic appearance indicates a malignant tumor for which surgery has no remedy, even with early operation. For the prognosis in the remaining 30 per cent, the microscopic examination was of no aid. It is a pleasing surprise to encounter so much that is novel from these painstaking studies extending over about ten years, studies of disease concerning which information has for a long time seemed so finished, except for the unsolved problems of cancer in general.

THE GOLDEN COMPLEX. A Defence of Inferiority. By Lee Wilson Dodd. Cloth. Price, $1.75. Pp. 171. New York: John Day Company, 1927.

With the same wit that constituted the chief attraction of his novels, Mr. Dodd exhibits for a public audience the virtues of the inferiority complex. He illustrates his story with some interesting cases and pleads for the retention of this complex as a feature of American life. At the same time he picks numerous flaws in the psychoanalytic doctrines, including the vagaries of dream interpretations. He considers the inferiority complex, christened by him the "cosmic vitamin," as driving mankind to greater and greater discoveries. Only a feeling of inferiority, he says, can smother boredom and make for progress. The book is beautifully printed and bound with all the artistry that marks the productions of this new publisher.

TO BEGIN WITH, BEING PROPHYLAXIS AGAINST PEDANTRY. By Raymond Pearl, Director of the Institute for Biological Research, Johns Hopkins University. Cloth. Price, $1.50. Pp. 96. New York: Alfred A. Knopf, 1927.

In this volume, Dr. Pearl has elaborated an essay which originally appeared in *Science* into a booklet for every scientific student. He presents a list of seventy books with which every medical student may well be familiar, the last group of fourteen, however, dealing largely with biostatistics, the special field with which Dr. Pearl is primarily concerned. While every one will have other books to add to this list, it is doubtful that the scientifically minded reader will fail to improve himself if he is thoroughly familiar with all the books that Dr. Pearl recommends. Allowing for prejudices and personal likes and dislikes, this list is a most fascinating presentation of desirable literature.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits. Books listed in this department are not available for lending. Any information concerning them will be supplied on request.

THE QUEEN CHARLOTTE'S PRACTICE OF OBSTETRICS. By J. Bright Banister, M.D., F.R.C.S., Obstetric Physician, Charing Cross Hospital, Aleck W. Bourne, M.B., F.R.C.S., Obstetric Surgeon to Out-patients, St. Mary's Hospital, Trevor, B. Davies, M.D., F.R.C.S., Gynæcological Surgeon, Hospital for Women, Soho, L. Carnac Rivett, M. C., F.R.C.S., Surgeon, Chelsea Hospital for Women, L. G. Phillips, M.S., F.R.C.S., Assistant Surgeon, Hospital for Women, Soho, and C. S. Lane-Roberts, M.S., F.R.C.S., Obstetric Surgeon, Royal Northern Hospital. Cloth. Price, 18s. Pp. 629, with 274 illustrations. London: J. & A. Churchill, 1927.

Symposium presenting technic of the well known British institution.

A REPORT ON THE OCCURRENCE OF GLASS FRAGMENTS IN FOODS PACKED IN GLASS CONTAINERS. By George C. Hancock, C.B.E., M.R.C.S. Report on Public Health and Medical Subjects No. 37. Paper. Price, 1s. net. Pp. 36, with illustrations. London: His Majesty's Stationery Office, 1927.

Showing that bad glass crumbles and that powdered glass occasionally gets into food but not often enough or big enough to do many people much harm.

DIET AND CANCER: With Special Reference to the Incidence of Cancer Upon Members of Certain Religious Orders. By S. Monckton Copeman, M.D., F.R.C.P., F.R.S., and Major Greenwood, F.R.C.P. Reports on Public Health and Medical Subjects No. 36. Paper. Price, 9d net. Pp. 33. London: His Majesty's Stationery Office, 1926.

Monograph proving that cancer occurs in vegetarians as well as in meat-eaters.

THE DETERMINATION OF BENZOIC ACID IN FOODSTUFFS. By G. W. Monier-Williams, O.B.E., M.A., Ph.D. Reports on Public Health and Medical Subjects No. 39. Paper. Price, 1s. net. Pp. 20, with 15 plates. London: His Majesty's Stationery Office, 1927.

Chemical procedures necessary for detecting the presence of benzoic acid, concluding that Mohler's test is best.

DENGUE: Its History, Epidemiology, Mechanism of Transmission, Etiology, Clinical Manifestations, Immunity and Prevention. By J. F. Siler, Milton W. Hall, and A. Parker Hitchens. Paper. Price, $3. Pp. 476, with illustrations. Manila: Bureau of Printing, 1926.

Monographic report of scientific observations previously reported briefly in THE JOURNAL.

DAS AUTISTISCH-UNDISZIPLINIERTE DENKEN IN DER MEDIZIN UND SEINE UEBERWINDUNG. Von E. Bleuler, Professor der Psychiatrie in Zurich. Fourth edition. Paper. Price, 7.50 marks. Pp. 210. Berlin: Julius Springer, 1927.

Fourth edition of important German monograph on methods of thought.

THE BACTERIOPHAGE IN THE TREATMENT OF BACILLARY DYSENTERY OF THE FLEXNER TYPE. By William Fletcher, M.D., M.R.C.P., and K. Kanagarayer, L.M.S., D.T.M. Paper. Pp. 10. Kuala Lumpur: Federated Malay States Government Printing Office, 1927.

Monograph concluding use of bacteriophage solution was worthless.

CITY HEALTH ADMINISTRATION. By Carl E. McCombs, M.D., National Institute of Public Administration and New York Bureau of Municipal Research. Cloth. Price, $5.50. Pp. 524. New York: Macmillan Company, 1927.

Guide for health officers with much sociological comment.

APPROACHING MOTHERHOOD. Questions and Answers of Maternity. By George L. Brodhead, M.D., Consulting Obstetrician, Bellevue and Allied Hospitals, New York. Third edition. Cloth. Price, $1.50. Pp. 193. New York: Paul B. Hoeber, Inc., 1927.

Helpful guide in question and answer form.

ZELLAUFBAU DER GROSSHIRNRINDE DES MENSCHEN. Von Dr. Constantin von Economo, Professor der Neurologie und Psychiatrie an der Universität Wien. Paper. Price, 18 marks. Pp. 145, with 61 illustrations. Berlin: Julius Springer, 1927.

Ten lectures on the histology of the brain.

DIE GONORRHOE DES WEIBES: Ein Lehrbuch für Ärzte und Studierende. Von Dr. R. Franz, Privatdozent an der Universität am Maria Theresa-Frauenhospital in Wien. Paper. Price, 12 marks. Pp. 193, with 43 illustrations. Vienna: Julius Springer, 1927.

Monograph with little new or important.

THE PSYCHOLOGY OF MENTAL DISORDERS. By Abraham Myerson, M.D. Cloth. Price, $1.40. Pp. 135. New York: Macmillan Company, 1927.

Well written essays conveying fundamental information on mental diseases.

PIONEER MEDICINE IN WESTERN PENNSYLVANIA. By Theodore Diller, M.D., with a foreword by J. J. Buchanan, M.D. Cloth. Price, $3. Pp. 230, with 26 illustrations. New York: Paul B. Hoeber, Inc., 1927.

Beautifully printed essay on early medical life in Pittsburgh and vicinity.

A TEXTBOOK OF PHARMACOLOGY. By A. D. Bush, B.S., M.D., Professor of Pharmacology, Emory University, Georgia. Cloth. Price, $2. Pp. 182. Philadelphia: P. Blakiston's Son & Company, 1927.

Textbook in brief outline form.

PRACTICAL PEDODONTIA OR JUVENILE OPERATIVE DENTISTRY AND PUBLIC HEALTH DENTISTRY. An Introductory Text for Students and Practitioners of Dentistry. By Floyde Eddy Hogeboom, D.D.S., Instructor in Pedodontia, College of Dentistry, University of Southern California. Second edition. Cloth. Price, $3.50. Pp. 108, with 77 illustrations. St. Louis: C. V. Mosby Company, 1927.

SURGICAL ANATOMY OF THE HUMAN BODY: Vol. III. Joints of the Lower Extremities, Chest, Thorax, Abdomen, Pelvis, Perineum. By John B. Deaver, M.D., Sc.D., LL.D., Surgeon-In-Chief to the Lankenau Hospital, Philadelphia. Second edition in three volumes. Cloth. Price, $36 per set. Pp. 763, with 159 plates. Philadelphia: P. Blakiston's Son & Company, 1927.

LEHRBUCH DER SPEZIELLEN PATHOLOGIE UND THERAPIE DER INNEREN KRANKHEITEN. Für Studierende und Aerzte. I. Band. Von Professor Dr. Med. Adolf Strümpell. Twenty-sixth edition by Professor Dr. Med. et Phil. Carly Seyfarth. Paper. Price, 25 marks. Pp. 870, with 170 illustrations. Leipsic: F. C. W. Vogel, 1927.

PRAKTISCHER LEITFADEN DER QUARZLICHTBEHANDLUNG BEI HAUTKRANKHEITEN NEBST DIAGNOSTISCHEN UND ALLGEMEIN-THERAPEUTISCHEN ANMERKUNGEN. Von Dr. Med. Theodor Pakheiser, Facharzt für Hautleiden in Heidelberg. Paper. Price, 3.90 marks. Pp. 82, with 7 illustrations. Berlin: Julius Springer, 1927.

REPORT ON AN OUTBREAK OF ILLNESS AT POPLAR SUSPECTED TO BE DUE TO LOCAL POLLUTION OF THE WATER SUPPLY. By George C. Hancock, C.B.E., M.R.C.S. Reports on Public Health and Medical Subjects No. 41. Paper. Price, 9d. net. Pp. 18. London: His Majesty's Stationery Office, 1927.

BONE SARCOMA: The Primary Malignant Tumors of Bone and the Giant Cell Tumor. By Anatole Kolodny, Ph.D., M.D., Department of Surgery, State University of Iowa. Cloth. Price, $5. Pp. 214, with 104 illustrations. Chicago: Surgical Publishing Company, 1927.

MEDICAL CARE FOR A MILLION PEOPLE. A Report on Clinics in New York City and of the Six Years' Work of the Committee on Dispensary Development of the United Hospital Fund, 1920-1926. Paper. Pp. 90. New York: Committee on Dispensary Development, 1927.

LES RÉFLEXES DE POSTURE ÉLÉMENTAIRES (ÉTUDE PHYSIO-CLINIQUE). Par Dr. P. Delmas-Marsalet, interne des Hôpitaux de Bordeaux. Préface des professeurs V. Pachon et H. Verger. Paper. Price, 16 francs. Pp. 174, with illustrations. Paris: Masson & Cie, 1927.

LA VACCINATION PRÉVENTIVE CONTRE LA TUBERCULOSE PAR LE "BCG". Par A. Calmette, sous-directeur de l'Institut Pasteur, avec collaboration de C. Guérin, A. Bosquet et L. Nègre. Paper. Price, 22 francs. Pp. 250, with illustrations. Paris: Masson & Cie, 1927.

A COMPARISON OF THE ANIMAL COMMUNITIES OF CONIFEROUS AND DECIDUOUS FORESTS. By Irving Hill Blake. Illinois Biological Monographs. Vol. X. No. 4. Paper. Price, $1.50. Pp. 148, with 41 illustrations. Urbana: University of Illinois, 1926.

EL SINDROME CAVITARIO EN LOS TUBERCULOSOS. Estudio de conjunto, clinico y radiológico. Por Dr. Walter Piaggio Garzón. Tesis presentada al concurso de la agregación de medicina. Paper. Pp. 77, with illustrations. Montevideo, 1925.

NIEDERSCHRIFT ÜBER DIE 16. TAGUNG DES GUTACHTERAUSSCHUSSES FÜR DAS ÖFFENTL. KRANKENHAUSWESEN. Von Geheimrat Dr. Alter. Paper. Pp. 81. Düsseldorf, 1927.

TRANSACTIONS OF THE NINTH ANNUAL MEETING, 1927, OF THE INDIANA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY. Paper. Pp. 128. Indianapolis, 1927.

THE NEW JERSEY PHARMACEUTICAL ASSOCIATION—PROCEEDINGS OF THE FIFTY-SIXTH ANNUAL SESSION, 1926. Paper. Pp. 209. Somerville, N. J., 1926.

LA SUPERVIVENCIA EN SU ASPECTO MÉDICO. Memoria laureada con el premio Gari. Por Ricardo Royo-Villanova y Morales. Paper. Pp. 48. Zaragoza, 1927.

TERCEIRO CONGRESSO BRASILEIRO DE HYGIENE, SÃO PAULO, NOVEMBRO DE 1926. Conferencias. Paper. Pp. 86. São Paulo, 1927.

EL BRONCE DE CARRIÓN. Por Dr. Carlos Enrique Paz Soldan. Paper. Pp. 23. Lima, 1927.

Miscellany

PERIODIC MEDICAL EXAMINATIONS

Mr. Neville Chamberlain, minister of health of England, received a deputation from the People's League of Health which submitted the following resolutions:

1. The establishment of periodic medical and dental examinations of all persons insured under the national insurance laws is urgently called for, as an economic proposition, having regard to the return so to be obtained in health and productive efficiency. Every such insured person, when accepted as a patient on a physician's panel, shall be by that physician medically examined, and the result of that examination placed on record. Preliminary examination should apply also to dental examination, when that additional benefit is included and available under the national insurance laws.

2. In view of the fact that there are over 1,643,700 unemployed persons, excluding minors, at the present time in the country, the government is urged to consider the effect of unemployment and the dole (unemployment insurance benefit) on the health and habit of the nation, from both the psychologic and the physiologic aspects.

Prof. P. S. Lelean spoke of the enormous saving of life and money consequent on the earliest possible detection of incipient disease. As the result of examination, it had been found that 80 per cent of the children in Glasgow were in need of dental treatment. Of 4,500 children examined in Glasgow, only twelve were found to have sound teeth. Even in the better-class university population in America, 91 per cent required dental treatment. In cancer, by early consultation and treatment, the number of cases requiring immediate attention had been reduced by 50 per cent, and the proportion of malignant tumors by a similar amount. In Framingham, Mass., periodic examination had been carried on in an industrial center, with the result that they had reduced the prevalence of tuberculosis by 55 per cent in ten years. Dr. William Hunter, representing the Royal College of Physicians, said that since he had emphasized the importance of eliminating small septic foci there had been a marvelous improvement in the condition of the teeth, the ears, the nose and the throat of the people. Mr. E. Laming Evans said that many operations could be avoided if the detection of early symptoms of certain diseases were possible. Dr. C. S. Myers referred to the taking of electrocardiograms, which provided an early diagnosis in heart trouble, and enabled employers to transfer men from arduous to less arduous labor. In one case he had pointed out that their diagnosis was far ahead of their treatment, and an employer had replied that it gave him a chance of saving men by transferring them to other occupations in heart disease, lung disease and tuberculosis.

The minister of health said in reply that the common basis of all the speeches was that an early, followed by a periodic, examination of the population would reveal actual or potential disease which could be treated in its early stages. This had been particularly illustrated by the experience with children, in whose case a system of examination had already been instituted and had been followed by a material improvement in health and physique. He rather questioned, however, whether the deputation sufficiently appreciated the difference between children and adults. The former were under control and were obliged to attend school, where a medical examination was easy. The latter were not compelled to resort to any given place at any given time, and might resent any attempt to force a medical examination on them. He wondered how many of the deputation themselves were periodically examined, and how often. One member of the deputation had suggested that the examination need not

be compulsory, but might be voluntary. There was nothing to prevent people being medically examined now if they wished, but the suggestion of the deputation was that a system of examinations should be applied to the whole of the insured population; but it was not possible to graft on to a compulsory scheme of insurance a voluntary benefit. Experience showed that such benefits were taken advantage of by those for whom they were most costly to provide, and had to be paid for by the rest of the insured community. The question of cost had been touched on lightly by the deputation, but it concerned him very much. A periodic examination of insured persons would be costly; even if the examination were to take place every five years that would involve the examination of 2½ million people every year, which, omitting Sundays and holidays, amounted to roughly one a day for every panel physician. Allowing time for the physician to make a record of what he found, he imagined that the examination would take less than half an hour, and panel physicians were already finding that the demands made on them by their patients were increasing. This additional service could not, therefore, possibly be undertaken without additional cost, and in the present financial circumstances of the country this was an extremely important aspect. There was also a feeling among approved societies that there were other additional benefits to which a preference should be given. Something was already being done on the lines they desired. Provision had been recently made in connection with the additional benefit schemes of approved societies which covered the dental treatment of practically the whole of the insured population. While he would be misleading them if he let them think that he regarded their proposal as practicable, he did accept it as an ideal to be worked toward and said the way to reach it was by the education in health matters which was carried on, for instance, by the People's League of Health. He hoped they would not regard his reply as unsympathetic.

REFORM OF DEATH CERTIFICATION

The death certification law in England has been in force since 1874. Legislation to remedy defects in the system as disclosed by experience recently came into force. The new act prohibits disposal of the body except on the registrar's certificate or coroner's order and establishes a system that should make impossible the use of a certificate given for the burial of one person for the burial of another. Stillbirths will be made registerable, which will stop the burial of children born alive as stillborn. The practice of handing the death certificate to the relatives is abolished: the physician must post it direct to the register. The former practice enabled certificates to be used by the unscrupulous for improper purposes and also tended to avoidance by the physician of stating such conditions as syphilis or alcoholism on his certificate, though they might have been important in the causation of death. A new form of medical certificate is being issued for the use of physicians. It shows many important modifications, which were drawn up after consultation between the registrar-general and representatives of medical bodies with the object of making the records of the causes of death more exact. The certifying physician must have been in attendance on the deceased during the last illness, and no other may sign the certificate on his behalf. Physicians are asked to use as far as possible only those terms recognized in the nomenclature of the Royal College of Physicians of London. The use of vague and ill defined terms is deprecated. An alphabetical list of such terms is appended with comments indicating in what respect the term is unsatisfactory and what further information as to the cause of death is required in each case. When an indefinite term has to be used because more definite information is lacking, physicians are asked to indicate this fact in the certificate. The word "idiopathic" will be understood as indicating that the probable cause of the condition stated is unknown; e. g., idiopathic atrophy, idiopathic convulsions, idiopathic peritonitis.

In a majority of cases only one cause of death need be stated. When two or more causes are entered, the distinction between "primary" and "secondary" made in the old certificate is no longer called for, as it was found to give rise to confusion. The present form of certificate is divided into two sections (I and II). In I should be entered the immediate cause of death and any morbid conditions that led up to it, the latter being stated in order backward from the immediate to the remoter causes. In II should be entered conditions not in the chain of pathologic events which have led to the immediate cause of death but which have none the less contributed seriously to the fatal issue. Examples are given to make these points clear. Thus, I. (*a*) Bronchopneumonia; (*b*) operation; (*c*) strangulated inguinal hernia. II. Chronic interstitial nephritis. When possible, it should be stated whether the condition was acute or chronic. It is suggested that the physician should first consider whether the essential features of the case cannot be epitomized by statement of a single cause—e. g., pulmonary tuberculosis—and that when entry of more than one cause is required he should next consider whether the conditions specified were or were not of independent origin, and indicate this by entry in the appropriate space. If either this distinction or that implied by order of entry under I cannot be made, the fact should be stated. Some points arise in regard to special causes of death: (*a*) Cancer. Attention is particularly directed to the request that the seat of primary occurence should be returned in all cases in which known. (*b*) Childbirth. Whenever parturition or pregnancy has been in any way a contributory cause of death, the fact should be mentioned. All diseases arising therefrom should be described as puerperal; e. g., puerperal eclampsia, puerperal septicemia, distinguishing in the latter case between septicemia originating in abortion and in childbirth. In every case of death by violence or by suspected violence, whether the death resulted from the violence itself or from a pathologic state induced by it, the verdict should state the form and means of violence, its accidental, suicidal or homicidal nature, and the nature of the injury. When death occurs during anesthesia or is in any degree attributable thereto, the nature of the anesthetic used should be recorded.

In all cases of sudden death or death under any circumstances of suspicion wherein the duty of informing the coroner is not by statute imposed on any particular person, it is the duty of those who are about the deceased to give immediate notice to the coroner or to the police. Some doubts have existed as to the duty of physicians to give certificates of cause of death in a case in which an inquest may take place. It is pointed out that the duty placed on a physician in attendance on the deceased person in his last illness to give a certificate of the cause of death appears to be unqualified. The practice of refraining from giving a medical certificate of cause of death when the case is being reported to the coroner was strengthened by a fear that, if a medical certificate is given, the death may forthwith be registered and the body buried before an inquest can take place. "Statement A on the back of the certificate has accordingly been included to obviate any such risk. If the physician when giving a certificate is also reporting the case to the coroner and accordingly initials statement A on the back of the certificate, the registrar will suspend the registration of the death until he learns from the coroner whether an inquest is or is not to be held. Cases occur in which the physician, when certifying the cause of death, is aware that some post-mortem or laboratory examination is about to take place or

is in progress, from the results of which some further information may become available which will be of value for statistical purposes. Provision is accordingly made in statement B on the back of the certificate whereby the physician may give an indication that he may be in a position, if applied to later by the registrar-general, to furnish additional information for statistical purposes. On the receipt by the registrar-general of a certificate on which the physician has initialed statement B, the registrar-general will in due course request the physician to communicate any further information with respect to the death which he may be able to give.

Medicolegal

Surgical Instruments as Evidence in Abortion Case

(People v. Lee (Calif.), 252 Pac. R. 763)

The District Court of Appeal of California, first district, division 1, in affirming a judgment of conviction of the defendant on a charge of having administered a drug to a pregnant woman with the intent to procure a miscarriage, says that he contended that the trial court had erred in admitting in evidence, over his objections, certain surgical instruments found in his apartment, wherein, it was claimed, the crime was consummated. The prosecutrix had been allowed to identify certain surgical instruments found in his apartments, and, subject to his objections, they were received in evidence. Three of them, the evidence showed, were instruments used in making vaginal examinations, and another was made expressly to grasp the cervix of the uterus to bring it down into better view for examination. The surgical instruments were admissible in evidence as bearing on the question of the intent with which the medicine was administered. The instruments were found in the defendent's possession at the place where the crime was alleged to have been consummated; and, despite the admitted fact that the miscarriage of the prosecutrix was sought to be accomplished by administering medicine, it might be fairly inferred, from the testimony showing the nature of the instruments and the use to which they are put, that their use would have been probable in the subsequent treatment of the prosecutrix if she had continued to remain under the defendant's care.

Communication About Venereal Disease Not Slanderous

(New York & Porto Rico S. S. Co. v. Garcia (U. S.), 16 Fed. R. (2d) 734)

The United States Circuit Court of Appeals, first circuit, in vacating a judgment for $4,900 damages rendered in favor of plaintiff Garcia, says that one of her causes of action was for slander. It was alleged that the physician on a steamship, while acting pursuant to his duties as an employee of the defendant, said to her, in the presence of her niece and several other persons present: "You cannot embark because you suffer from a contagious venereal disease," which words were false and defamatory. It appeared that the communication complained of was made by the physician at the office of the steamship company in Porto Rico; that the plaintiff and her niece were aliens, and had sought to engage transportation, with the defendant, to New York.

According to a number of authorities, a communication of any matter in which the person making the communication has an interest, or in reference to which he has a duty, is privileged, if made to a person having a corresponding interest or duty, even though it contains matter which without this privilege would be actionable, and although the duty is a moral and not a legal one, and particularly where, as here, the communication arises out of and is incidental to a business relation between the parties. An utterance, though false, may be thus privileged, and if made in the honest belief that it is true and from no malicious motive, is not actionable. The occasion on which such a communication is made rebuts the presumption or inference of malice and casts the burden on the plaintiff to prove that there was malice in fact. It is not necessary in order to render the communication privileged that it should have been in response to an inquiry made by the plaintiff. It is enough that it was made by one having a duty to perform to a person or persons having a like interest or duty in the subject matter of the communication. The mere fact that third persons not legally interested in the communication are accidentally present and hear it will not alone take the case out of the privilege, if it was unavoidable or happened in the usual course of business affairs.

Independent of the plaintiff's request for the information, this court thinks that it was clearly the physician's duty, in view of the business relation existing between the parties, to inform her why she could not sail; that the plaintiff had a corresponding interest in the performance of that duty; and that, if any bystanders chanced to be present, their presence there happened in the usual course of business affairs, and was not due to any contrivance on the part of the defendant or the physician. Such being the case, this court regards the occasion as privileged, and holds that an instruction that "it is universally held that in actions for defamation, when the words uttered are actionable per se (by themselves), malice in law is conclusively presumed" should not have been given, as it was inapplicable to the facts in the case, misleading and improper.

Practice of Medicine—Chiropractic—Valid Law

(Louisiana State Board of Medical Examiners v. Fife et al. (La.), 111 So. R. 58)

The Supreme Court of Louisiana, in affirming a judgment perpetuating a writ of injunction restraining the defendants from practicing medicine until they procured the required certificate or license, and condemning them to pay the penalty of $100 and $50 attorney's fees provided by law, says that, as to whether or not they were practicing medicine, the evidence left no doubt that, during the time mentioned, they were treating disease and other bodily infirmities. They were not treating these by using drugs of any description, nor were they using in their practice surgical instruments of any kind. If it is essential to constitute the practice of medicine that one or the other of these be used, then this court thinks it clear that the defendants, as contended by them, were not practicing medicine. But the practice of medicine has a broader significance than that. It may consist in the application of physical force to parts of the body for the purpose of curing disease or relieving bodily ailments, and the legislature has, in part, so defined it (section 9 of act 54 of 1918). The defendants were engaged, it appeared, in using physical force, applied with the hands only, in treating disease. They were, in reality, practicing the system known as chiropractic, which is a system of adjusting the subluxated or slightly displaced vertebrae of the spinal column, by hand, for the restoration of health. To practice chiropractic is to practice medicine.

No person has a natural or absolute right to practice medicine or surgery. It is a right granted on condition. And, although a state cannot prohibit the practice of medicine and surgery, and would hardly undertake to do such a thing, still it is well established that, under its police power, it may regulate, within reasonable bounds, for the protection of the public health, the practice of either, by defining the qualifications which one must possess before being admitted to practice, and, to make these regulations effective, to require the one intending to engage in the practice, to possess, before engaging therein, a certificate showing that he possesses the required qualifications. The legislature, however, in defining these requirements, cannot prescribe, as a condition to the right to practice, knowledge of a subject which bears no relation to the practice of medicine. But this does not mean that the legislature, in exercising its power to prescribe the qualifications, which, in its judgment, one should possess to practice medicine, must make requirements such as to provide for every school of medicine that may exist, by requiring of those belonging to each particular school a knowledge only of those subjects which the theory of healing, advocated and put in operation by each school, requires. Were it otherwise, the legislature would be greatly hampered in the exercise of

its power to protect the general health and the public from imposition and fraud. Every group of men who might get together and evolve some system designed to restore health would be entitled to recognition, and all that could be required of them would be evidence of good character and a knowledge of such subjects as their particular school seemed to require, although the legislature might deem with reason a knowledge of such subjects wholly insufficient to entitle any one to treat the sick. However, the legislature is not hampered by any such restriction in the exercise of its power to protect the public health.

This court's conclusion is that the defendants had no constitutional grounds to complain, by reason of the facts that, before being permitted to treat the sick, they must make it appear, in the manner prescribed by law, that they had an adequate knowledge of materia medica and surgery, and of the remaining subjects required by section 2 of act 56 of 1914, as amended by section 2 of act 54 of 1918. While materia medica and surgery are not used in the chiropractic system, still they, as well as the other subjects required by the act, as amended, bear a relation to the practice of medicine as a general science and that, in view of the fact that the legislature is not bound to recognize every school of medicine, and deal with it as such, is sufficient to prevent the act from being unconstitutional.

Nor were the defendants denied the equal protection of the laws by unjust discrimination against them in that the legislature had withdrawn, or practically withdrawn, osteopaths and dentists from the operation of the act of 1914, as amended, and had provided regulations for their admission to practice, as well as for the admission of chiropodists and trained nurses, different from those which it required for the practice of medicine and surgery, not requiring of them a full course, or none at all, according to the needs of the calling, in materia medica, surgery and other subjects named in the medical and surgical act cited, whereas it required of those desiring to practice the chiropractice system a full course in materia medica and surgery.

Requirements for Health Regulations of Penal Nature

(State v. Trask (Minn.), 211 N. W. R. 673)

The Supreme Court of Minnesota, in reversing a judgment of conviction of the defendant of keeping two horses on his premises in the city of St. Paul without first having obtained a permit from the health department of the city, says that an ordinance of the city provides that horses cannot be kept on the same lot or premises with a dwelling house "except under such conditions as may be prescribed by the health officer." That the defendant received from the commissioner of public buildings a permit to construct the building in which he kept the horses in no way relieved him from complying with the requirements of the health officer. The record, however, failed to show any oral or written regulation commanding the defendant to get a permit to keep his horses. What the record showed was that the health officer had orally adopted the uniform practice that, if there were no objections on the part of the immediate neighbors, and the building was constructed with waterproof flooring and connected with the sewer, he approved the application. It was said that such conduct was a permit on the part of the department to keep such animals. This was said to have been the custom for several years. The defendant's building did not meet these requirements. Whether the health department could make such an inflexible rule the court need not consider. It did not appear that the so-called rule or practice ever had any publicity or that the defendant knew of it. Nor does this court appreciate how a citizen could be expected to know of the existence of it. The accusation in this case was based on a failure to comply with this traditional policy. Being penal in its nature and operation, the requirement should not rest in parol (word of mouth). Such a regulation is not a public law which is conclusively presumed to be known. To permit a criminal conviction to stand thereon would lead to opportunity for oppression. This court's attention was not called to any authority that permits such procedure. It would seem that a statute or ordinance is the written will of the enacting body. It is equally important that a penal regulation be officially adopted, reduced to writing, and made a public record, so that the citizens may become informed thereof. This court's conclusions are (1) that there was no requirement for a permit as charged in the complaint; and (2) that such "conditions" as the health officer may prescribe, pursuant to the ordinance, must be specified in writing, and that his oral regulations, of which the public are not advised, cannot be the basis for a criminal prosecution. In other words, a health regulation, penal in its nature, cannot rest in parol, but must be officially adopted, reduced to writing, and made a public record.

Small Payment Not Proof that Full Service Has Not Been Rendered

(Carroll v. Metropolitan Life Ins. Co. (Mass.), 154 N. E. R. 757)

The Supreme Judicial Court of Massachusetts says that in this action on a life insurance policy the plaintiff, for the purpose of showing that a previous medical examination of the insured was not made, offered to prove that the physician who was said to have made it was paid twenty-five cents for what he did on the occasion when he took the application to the insured and made the examination, if any were in fact made in connection with the policy. The evidence was excluded rightly. The amount of money the physician received in fact for his services was not relevant evidence to prove that he did not render full service, or that such did not include a medical examination in the sense those words are used in the statute relative to cases in which policies are issued without previous medical examination.

Rulings as to Injury and Disease—Expert Testimony

(McMinis v. Philadelphia Rapid Transit Co. (Pa.), 135 Atl. R. 722)

The Supreme Court of Pennsylvania, in reversing a judgment for $15,000 damages which was rendered in favor of the plaintiff, says that in March, 1920, he was injured while a passenger on one of the defendant's cars which collided with another. At the time he was standing on the rear platform and was hurt as the result of others being thrown against him when he fell. His left leg was lacerated, and there were a few scratches on the back and chest. About three months thereafter symptoms indicating the presence of tuberculosis became apparent, and, in April, 1923, he went to a camp for the treatment of that disease. An action for damages was brought in 1921, and a year later a statement of claim was filed wherein the principal injury complained of was a weakening of the leg. That the violence suffered caused the development of tuberculosis was first averred in an amendment to the pleadings in April, 1925. At the trial, in the following year, experts were produced who gave it as their opinion that the blows received at the time of the accident caused the growth of the tuberculous condition which later became evident, or was responsible for the presence of the disease in active form.

The Pennsylvania cases have recognized the possibility of such a result flowing from bruises inflicted on the body. It is not enough, however, after the lapse of a long time to establish a mere lessening of resistance which might have caused the disease, for it cannot be said, as a matter of law, that whatever injury lowers vitality is responsible for the condition which thereafter develops. Proof is not required that the infecting germ was implanted in the body at the time of the injury, but it must be made to appear, with reasonable certainty, that the resulting condition was brought about by the act complained of. This may be shown by the opinions of qualified experts who state plainly that, in their professional views, the accident was the superinducing cause. Such evidence was offered in this case, making the question one for the jury to pass on. It was urged that the opinions of two physicians who testified were of no probative value in view of their statements that no one could positively tell whether the plaintiff might not have been in his present condition if he had not suffered any physical injury. But this court cannot say, as a matter of law, that the answers referred to, given in cross-examination, destroyed the effectiveness of their previous declarations. It was for the jury to consider the evidence of each as a whole in passing on the weight to be given to the judgments expressed.

A medical expert may testify as to the symptoms and sensations narrated by the patient for the purpose of securing a correct diagnosis, and is permitted to give his professional judgment as to effects produced by an accident, based on his own physical examination of the injured party, but not on what others have told him, even though fully advised as to the history of the case. The witness cannot found his opinion merely on facts communicated and the statements heard in court. If he has listened to all the evidence submitted to the jury, where not conflicting, he may express his judgment. He is not competent, however, to give an opinion based only on a part of the material evidence adduced, though he may be asked as to his conclusion from consideration of specifically defined portions of the testimony offered. The opinion desired should be elicited by asking a proper hypothetic question. In any event, where the judgment is to be based on the testimony of others, the query must assume the truth of the facts as narrated, before an opinion can be given. One expert in this case was not asked to form his judgment on a defined part of the evidence, or to assume the truth of that portion which he did hear. Under the circumstances disclosed, his opinion as to causal connection should have been rejected, and its admission was prejudicial error, making necessary the sustaining of assignments of error.

Section Defining Practice May Be Considered

(State Board of Medical Examiners v. Wooding (N. J.), 135 Atl. R. 785)

The Supreme Court of New Jersey says that the defendant was charged with having violated section 10 of "an act to regulate the practice of medicine and surgery," etc., approved May 22, 1894, as amended by act approved April 8, 1921. He was tried in the district court of the city of Orange by the judge without a jury and found not guilty. The board through a writ of certiorari sought to have the judgment set aside. There was no attempt by the defendant, as shown by the record, to controvert or impeach the witnesses which the state produced. His contention was that he could not be convicted for anything other than the practice of medicine and surgery, and that section 8 of the laws of 1915, which defines the practice of medicine and surgery, could not be considered by the court. This evidently was the view taken by the judge of the district court; but the supreme court thinks that in this the district court fell into error, and reverses the judgment of the district court.

Food Served at Eating Houses Not "Sold" or Warranted

(Nisky et al. v. Child Co. (N. J.), 135 Atl. R. 805)

The Court of Errors and Appeals of New Jersey, in affirming a judgment of nonsuit in this action to recover damages for the illness of Mrs. Nisky, alleged to have been caused by food (apparently oysters) eaten in one of the defendant's restaurants, says that from the earliest times a distinction has been drawn between a sale of an article and the furnishing of food at an eating house, hotel or restaurant; the latter partaking rather of the character of service, in which case the standard of liability is the failure to use that reasonable care which the circumstances require. The authorities distinguishing the transaction from a sale recognize that while the food served constitutes, of course, an essential part, yet serving it cannot be regarded as a sale of goods, and this court thinks that this is the common understanding. This attitude of the public mind is indicated by the familiar signs, "Meals served here," "Dinners served here," and the like. The view that the service of food at eating houses has never been and cannot be regarded as a sale at common law is fortified by the absence of litigation (until quite recent years), based on a claim of warranty, which would necessarily follow if the transaction constituted a sale. In no prior case in New Jersey has such a contention ever been made, and even in the states of Massachusetts and New York, from which cases strongly relied on by the plaintiff come, it remained for the modern sale of goods act to invite litigation along such lines. The provision of the New Jersey sale of goods act that, "Where the buyer, expressly or by implication, makes known to the seller the particular purpose for which the goods are required, and it appears that the buyer relies on the seller's skill or judgment (whether he be the grower or manufacturer or not), there is an implied warranty that the goods shall be reasonably fit for such purpose," does not apply to food served at a restaurant. In such case the keeper of the restaurant does not warrant that the food so supplied is free from deleterious or injurious substances. Food served at a restaurant imposes on the restaurant keeper the duty to use reasonable care to see that the food thus furnished shall be free from injurious substances and fit for human consumption.

A Condition Amounting to "House Confinement"

(Van Dusen v. Interstate Business Men's Ass'n (Mich.), 211 N. W. R. 991)

The Supreme Court of Michigan says that the plaintiff took a health and accident policy with the defendant whereby the latter is construed as having promised to pay him $25 a week for fifty-two weeks for house confinement, and $10 a week for ten weeks for nonhouse confinement, on account of sickness or disease. Some years later he was found to be suffering from arteriosclerosis and having a blood pressure of 255. He gradually grew worse and finally gave up practically all business, but was not confined to the house all the time. He would walk down to his store, to his physician's office and elsewhere for exercise under the direction of his physician. At the close of the trial of his action to recover on the policy, the court, with the consent of the defendant, directed a verdict in his favor for $60 on account of nonhouse confinement, but held that he was not entitled to anything under the house confinement clause. This was based on his admission that he was not strictly confined to the house, although he was under the care of a physician most of the time. But the supreme court reverses the judgment and grants a new trial, holding that the trial court was right in applying the clause of nonhouse confinement, but was in error in holding that no recovery could be had under the house confinement clause. The record showed that the plaintiff, at the end of six weeks' partial house confinement, was in a very serious condition. He was incapacitated for any kind of business or work. He could not dress himself without help. He went out on occasions for exercise on the advise of his physician. He had an incurable malady, and was unable to attend the trial. The supreme court thinks that the plaintiff's physical condition as shown was such as to bring him within the contract.

Society Proceedings

COMING MEETINGS

American Academy of Ophthalmology and Otolaryngology, Detroit, September 12-16. Dr. W. P. Wherry, Bankers Reserve Life Building, Omaha, Secretary.

American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Asheville, N. C., September 15-17. Dr. J. E. Davis, 111 Josephine Avenue, Detroit, Secretary.

American Electrotherapeutic Association, New York, September 12-16. Dr. Richard Kovacs, 223 East Sixty-Eighth Street, New York, Secretary.

American Roentgen Ray Society, Montreal, Canada, September 20-23. Dr. C. L. Martin, Baylor Hospital, Dallas, Texas, Secretary.

Association of Military Surgeons of the United States, Carlisle Barracks, Pennsylvania, October 6-8. Dr. J. R. Kean, Army Medical Museum, Washington, D. C., Secretary.

Colorado State Medical Society, Glenwood Springs, September 6-8. Dr. F. B. Stephenson, Metropolitan Building, Denver, Secretary.

Idaho State Medical Association, Twin Falls, August 29-31. Dr. J. N. Davis, Kimberly, Secretary.

Indiana State Medical Association, Indianapolis, September 28-30. Mr. T. A. Hendricks, Hume-Mansur Building, Indianapolis, Executive Secretary.

Kentucky State Medical Association, Owensboro, October 3-6. Dr. A. T. McCormack, 532 West Main Street, Louisville, Secretary.

Missouri Valley, Medical Society of the, Des Moines, Iowa, September 14-16. Dr. Charles Wood Fassett, 115 East Thirty-First Street, Kansas City, Mo., Secretary.

Oregon State Medical Society, Salem, September 1-3. Dr. F. D. Stricker, Medical Arts Building, Portland, Secretary.

Washington State Medical Association, Tacoma, August 29-31. Dr. C. H. Thomson, 508 Cobb Building, Seattle, Secretary.

Wisconsin, State Medical Society of, Eau Claire, September 21-23. Mr. J. G. Crownhart, 153 Oneida Street, Milwaukee, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in America for a period of three days. No foreign journals are available prior to 1921, nor domestic prior to 1923. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Journal of Hygiene, Baltimore

7: 201-391 (May) 1927

Thermophilic Bacteria in Milk. M. O. Eckford, Baltimore.—p. 201.
Parasites, Chiefly Metazoan: Feces from Koreans. R. G. Mills, Rochester, Minn.—p. 222.
Bionomics of North American Anophelines: I. Number of Annual Broods of A. Quadrimaculatus. M. F. Boyd, New York.—p. 264.
*Relative Toxicity of Benzene and Its Higher Homologues. J. J. Batchelor, New Haven, Conn.—p. 276.
Components of Death Curves: Analysis of Life Table Deaths by Causes. L. I. Dublin, E. W. Kopf and A. J. Lotka, New York.—p. 299.
Accessory Etiologic Factors in Pneumonia in Rabbits: I. Effect of Putting Brilliant Green into Nasal Passages. C. G. Bull, Baltimore, and G. H. Bailey, Baltimore.—p. 334.
*Epidemiology of Acute Rheumatic Fever and Related Disease in United States. R. M. Atwater, Boston.—p. 343.
Systemic Reactions in Rabbits Which Are Nasal Carriers of B. Lepisepticum, B. Bronchisepticus, or M. Catarrhalis. G. H. Bailey, Baltimore.—p. 370.

Relative Toxicity of Benzene.—From experiments made by Batchelor it would appear that the order of toxicity, in intraperitoneal and subcutaneous administration, decreases from a maximum with benzene down through toluene, xylene and high-flash naphtha, in the order stated; but benzene possesses special neurotoxic and hematopoietic properties which are almost wholly lacking in the case of the other solvents.

Epidemiology of Acute Rheumatic Fever.—In Atwater's opinion, acute rheumatic fever appears to be related to the family of streptococcal infections, because of bacteriologic indications, clinical resemblances and epidemiologic kinships. The trends and the oscillations are so similar as to suggest that there is a community of relationship between these diseases, and the similarity persists over a sufficient period of time, so that the relationship is not likely to prove fortuitous. A review of the epidemiology of acute rheumatic fever indicates from many angles that this disease is one of the communicable infections caused by a living parasite which gains access to the body from without, and which produces a disease picture in which the age, sex, seasonal, racial and other characteristics are fixed and very close in their resemblance to the well known epidemic diseases.

American Journal of Tropical Medicine, Baltimore

7: 149-198 (May) 1927

*Diet and Disease: II. W. E. Deeks, New York.—p. 149.
Anopheles Pseudopunctipennis as Malaria Transmitter in Argentine. N. C. Davis, Tucuman, Argentina.—p. 167.
*Isolation of Leptospiras from Water. J. H. Bauer, Nigeria, West Africa. —p. 177.
*Parathyroid Treatment of Tropical Sprue. E. A. Baumgartner, Clifton Springs, N. J.—p. 181.
*Anthelmintic Value of Tetrachlorethylene Based on Egg Counts Before and After One Treatment. L. Schapiro, Ancon, C. Z., and N. R. Stoll, Ancon, C. Z.—p. 193.

Diet and Disease.—The importance of a properly balanced diet as a preventive measure against infections and organic degenerations is stressed by Deeks, as it has a direct influence on longevity. All symptoms which suggest imperfect metabolism in the way of digestive or nervous disturbances, or of toxic absorption and excretion, should receive early attention, and the diet should be corrected before the later and graver manifestations of organic degenerations or invasion of tissues by infectious organisms ensue. When these develop, in most cases all that can be expected is an amelioration of symptoms and an arrest of the progress of pathologic changes—not the restoration of degenerated or diseased tissues.

Isolation of Leptospiras from Water.—The culture method is used by Bauer. The medium consists of filtered water, 200 cc.; 2 per cent nutrient agar, melted and cooled to 45 C., 20 cc.; fresh defibrinated guinea-pig blood, from 2 to 3 cc. By using this method he has succeeded in isolating twelve strains of leptospiras from twenty-nine samples of water collected from various sources in Lagos and the vicinity. In addition to the leptospiras, a number of different types of spirochetes have been obtained in pure culture.

Parathyroid in Treatment of Sprue.—Three cases of rather severe sprue are described by Baumgartner, who gives details of blood calcium studies, with charts of these, and a comparison of calcium lactate and parathyroid therapy, diets and blood picture. It would seem that the dry extract of parathyroid is not as impotent as has been maintained by some, and that it may even be dangerous as a therapeutic measure if carried out over a long period.

Anthelmintic Value of Tetrachlorethylene.—Schapiro and Stoll are of the opinion that tetrachlorethylene as a remedy for hookworm disease merits further trial. Test treatment of fourteen patients gave a reduction in egg output of 93 per cent with 3 cc., and of 88 per cent with 2 cc. Under field conditions, with adult doses of 3 and 2 cc. the reduction was 81 and 77 per cent, respectively. Fractional doses of tetrachlorethylene gave a reduction of 53 per cent. The combined treatment with tetrachlorethylene and chenopodium gave an efficiency of 75 per cent.

Annals of Clinical Medicine, Baltimore

5: 993-1059 (May) 1927

Digitalis Therapy. W. A. Bastedo, New York.—p. 993.
*Treatment of Angina Pectoris by Cervical Sympathectomy. E. C. Cutler, Cleveland.—p. 1004.
*Coronary Thrombosis. A. A. Jones, Buffalo.—p. 1014.
*Dynamics of Ventricular Alternation. C. J. Wiggers, Cleveland. —p. 1022.
*Latent Syphilis as Cause of Heart Disease. R. W. Scott, Cleveland. —p. 1028.
*Treatment of Essential Hypertension. S. F. Adams and G. E. Brown, Rochester, Minn.—p. 1036.

Cervical Sympathectomy for Angina Pectoris.—Cutler concludes that at the present time the complete operation of Jonnesco on both sides offers the greatest hope of lasting relief. His own experience leads him to feel that a complete unilateral Jonnesco procedure is well borne by these patients, though it may be wise in selected cases to perform the simpler operation of superior cervical sympathectomy as a first stage prior to a later complete removal.

Coronary Thrombosis.—Jones cites six cases which demonstrate how coronary occlusion may end life when the patient is supposedly dying of some other disease.

Dynamics of Ventricular Alternation.—Wiggers states that the results have demonstrated that the condition of temporary alternation which follows a long diastolic pause is secondary to variations in diastolic filling and does not involve any abnormality of muscular function. The results suggest, but do not conclusively prove, that the more permanent alternation, which results when tachycardia occurs with an abrupt onset, may have a similar cause.

Latent Syphilis as Cause of Heart Disease.—According to Scott, latent syphilis is an important cause of death from heart failure only when it attacks the root of the aorta, leading to aortic regurgitation or coronary occlusion, or both. The disease may be clinically silent and continue as a chronic inflammation in the aorta for as long as forty-four years. In early cases, syphilis involves primarily the vasa vasorum of the adventitia—obliterative endarteritis with perivascular infiltration. The changes in the media appear to be secondary. Syphilis spreads from the aortic root to the valves by way of small vessels at the commissures. The lateral margins of the leaflets gradually become adherent to the adjacent intima producing the ultimate picture of a widened commissure—the earliest and most characteristic evidence of syphilitic involvement of the aortic valves. Free aortic regurgitation developing insidiously in an adult with a negative cardiac history and without evidence of acute infection is best regarded as syphilitic until proved otherwise. A negative Wassermann reaction does not eliminate syphilis, as 15 per cent in Scott's series gave a negative reaction. Syphilis at the root of the aorta is, in the majority of instances, a progressive lesion, and

imposes a burden on the heart leading ultimately to death. After the development of frank signs of congestive failure, the prognosis is grave. The histologic changes in the myocardium are not characteristic, and to regard them as evidence of latent myocardial syphilis seems to Scott unwarranted.

Treatment of Essential Hypertension.—Adams and Brown analyze the curves showing the average response of about 200 patients with hypertension to rest, baths, nitrites and phenobarbital and typhoid vaccine. For the most part, the authors' reaction to the result of treatment of essential hypertension is not pessimistic, and they are of the opinion that the response to treatment does not warrant the black despair heretofore ascribed to it.

Archives of Internal Medicine, Chicago

39: 605-750 (May) 1927

*Weight and Physical Measurements After Thyroidectomy. W. R. Miles, Stanford University, Calif., and H. F. Root, Boston.—p. 605.
*Antithrombin Test in Typhoid. C. A. Mills, Peking.—p. 618.
*Curability of Bronchial Asthma. M. H. Kahn, New York.—p. 621.
*Etiologic Factors in Diabetes: II. J. H. Barach, Pittsburgh.—p. 636.
*Relation Between Cell Count, Cell Volume and Hemoglobin Content of Venous Blood of Normal Young Women: Determinations of Color Index, Volume Index and Saturation Index Standards. E. E. Osgood and H. D. Haskins, Portland, Ore.—p. 643.
*Metabolic Studies in Treatment of Polycythemia Vera with Phenylhydrazine. L. D. Huffman, Rochester, Minn.—p. 656.
*Acromegaly: IV. Basal Metabolism. H. Cushing and L. M. Davidoff, Boston.—p. 673.
*Addison's Disease and Diabetes Mellitus Occurring Simultaneously. J. H. Arnett, Philadelphia.—p. 698.
Congenital Ventricular Septal Defect in Man, Aged 79. E. Weiss, Philadelphia.—p. 705.
Conditions Affecting Subjective and Objective Manifestations of Hunger: Respiratory Change Due to Hunger Sensation. F. Hoelzel and N. Kleitman, Chicago.—p. 710.
*Severe Chronic Glomerular Nephritis Without Hypertension, Cardiac Hypertrophy or Retinal Changes. E. G. Bannick, Rochester, Minn. —p. 741.

Weight and Physical Measurements After Thyroidectomy.—Data given by Miles and Root on fourteen patients with hyperthyroidism after operation show that every patient increased in weight. The increases ranged from 4 to 14, averaging 9.1 Kg. The results for body length in general indicate but slight change. Certain bony body widths, which have a natural variability about midway between stature and body weight, are found to change but little when persons lose or gain as much as from 15 to 20 per cent in weight. These width diameters, notably the intercristal iliac diameter, are important in determining body-build, and should receive due emphasis in tables on normal weight.

Antithrombin Test in Typhoid.—In THE JOURNAL, Dec. 18, 1926, p. 2122, is described the antithrombin test for typhoid originated by Kitzmiller and Mills. Three changes in technic are now described by Mills. The first alteration in technic is the use of purified fibrinogen and thrombin solutions. The second change is the use of 0.1 or 0.2 cc. of the patient's serum. The third improvement consists in the taking of only a single reading of the thrombin activity of the mixtures at the end of two hours, instead of the repeated readings previously advised.

Curability of Bronchial Asthma.—In Kahn's opinion, an absolute cure of asthma is not to be expected until a method has been found which will alter the chromosomal constitution either in the adult or, more radically, in the genetic cells.

Etiologic Factors in Diabetes.—The relative frequency of all preceding infectious diseases in 1,530 patients was studied by Barach. Investigation of a group of patients with pulmonary infection shows that such persons suffer most frequently from tonsillitis, acute colds and pneumonia. A group of patients with gastro-intestinal diseases shows excess in the number of operative conditions, such as appendicitis, and gallbladder, gastric and duodenal complications. The diabetic patients showed a marked increase in the number of cases of chronic tonsillar disease and typhoid fever. Barach concludes that in chronic tonsillar disease repeated strain on the insulin-producing tissues, as must occur with each fresh attack, undoubtedly has its injurious effect. The continued effect of a chronic infection is less apparent. Typhoid is an acute infectious disease of such duration and severity as could be the cause of permanent injury to the pancreas and other tissues.

Normal Blood Studies.—Osgood and Haskins determined that the actual average red cell count in 100 women from 18 to 30 years of age was 4.8 million, 90 per cent of the counts falling between 4.3 and 5.3 million. Their previous work showed an average count of 5.4 million in 137 men (from 19 to 30 years of age), with 90 per cent falling between 4.7 and 6.1 million. The average total hemoglobin per hundred cubic centimeters of blood in young women is 13.7 Gm., with 90 per cent of the results falling between 12 and 15.5 Gm. In men the average was 15.8 Gm., and 90 per cent of the results fell between 14 and 18 Gm. The various indexes (color, volume and saturation) will average 1.0 in normal young adults if they are properly calculated and are based on accurate estimations of cells, hemoglobin and cell volume. About 90 per cent of the results will fall between 0.9 and 1.1.

Metabolism in Polycythemia Vera Under Treatment.—Patients with polycythemia vera, who had been put on a fixed diet by Huffman, showed a negative nitrogen balance during the period of erythrocytic disintegration brought about by the administration of phenylhydrazine. An increased elimination of nitrogen of the urine in the form of urea occurred. The other nitrogen fractions of the urine were only slightly changed. The total blood volume, hemoglobin and hematocrit were reduced. The total blood nitrogen was decreased. The nonprotein nitrogen of the blood was increased. The urea fraction accounted for most of this increase, and is attributable to the production of urea in excess of the eliminative ability of the kidneys. Primary renal injury as a result of the administration of phenylhydrazine cannot be excluded. The amino-acid nitrogen of the blood was decreased. The creatinine and uric acid were only slightly changed. The serum bilirubin was increased, with the occurrence of slight icterus. The van den Bergh reaction remained indirect throughout. An increase in urinary pigment coincided with the bilirubinemia. A change in carbohydrate metabolism was not demonstrated. Serious renal or hepatic injury, or characteristic changes in the heat exchange, as indicated by the basal metabolic rate, were not observed.

Metabolism in Acromegaly.—Cushing and Davidoff assert that acromegaly is a disease which bears the same relation to pituitary insufficiency (hypopituitarism) that exophthalmic goiter bears to myxedema (hypothyroidism). It is, in other words, an expression of hyperpituitarism just as exophthalmic goiter is of hyperthyroidism. Acromegaly is often accompanied by an elevated basal metabolic rate, and the reverse condition of hypopituitarism by a subnormal rate. Acromegaly, furthermore, is often accompanied by a palpably enlarged thyroid and by symptoms suggesting thyreotoxicosis to which the increased basal metabolic rate has generally been ascribed. Operations on the chromophilic hypophysial adenoma itself in cases of acromegaly in which the basal metabolism is elevated, even in the absence of a palpably enlarged thyroid, are followed by a fall in the metabolic rate almost as uniformly and strikingly as are the operations on the thyroid in exophthalmic goiter. The authors suggest that the chromophilic cells of the anterior lobe of the pituitary body secrete a substance which not only contains the hormone of growth, but which is capable of raising the basal metabolic rate. Whether the hypophysial principle under these circumstances acts as a stimulus to metabolism directly on the tissues or only through the intermediation of the thyroid cannot as yet be positively stated, although there are reasons to believe that it may act independently.

Addison's Disease and Diabetes Mellitus Occurring Simultaneously.—The case reported by Arnett presented both the clinical and chemical evidences of diabetes mellitus, together with the pigmentation, asthenia, low blood pressure and vomiting that are characteristic of Addison's disease. Autopsy bore out this diagnosis.

Chronic Glomerular Nephritis Without Hypertension, Cardiac Hypertrophy or Retinal Changes.—Bannick reports

two cases of severe chronic glomerular nephritis without hypertension, cardiac hypertrophy or retinal changes. The first patient complained of malaise, slight anorexia and some loss of weight and strength. He became profoundly weak, and began to vomit soon after eating. He died from uremia. The necropsy disclosed a chronic glomerular nephritis. The second patient was a boy, aged 15. He had an abscess in the right axilla and complained of anorexia, weakness and malaise. The breath had a uremic odor. Edema was not present; the blood pressure was 112 systolic and 70 diastolic, and a retinal examination did not reveal anything abnormal, with the exception of a slight anemia. The patient died, but a necropsy was not permitted.

Archives of Pathology & Lab. Med., Chicago

3: 921-1088 (June) 1927

*Pulmonary Embolism. J. S. McCartney, Jr., Minneapolis.—p. 921.
*Color of Skin and Corium Pigmentation. R. M. Strong, Chicago. —p. 938.
*So-Called Chronic Appendicitis. G. L. Rohdenburg, New York.—p. 947.
*Fat Content of Normal Human Thyroid. R. H. Jaffé, Chicago.—p. 955.
*Racial and Age Incidence of Cancer and Other Malignant Tumors: V. R. Pearl and A. L. Bacon, Baltimore.—p. 963.
*Bilirubin Content of Gallbladder Bile in Cholecystic Disease. H. D. Caylor and J. L. Bollman, Rochester, Minn.—p. 993.
*Effect of Repeated Injections of Parathyroid Extract on Calcification of Osteoid Tissues. W. Hueper, Chicago.—p. 1002.
Use of Calcium Chloride in Formation of Experimental Staphylococcus Abscesses. T. N. Rossides, Cleveland.—p. 1008.
Pathogenicity of Human Intestinal Protozoa. R. Hegner, Baltimore. —p. 1009.

Pulmonary Embolism.—Seventy-three cases of pulmonary embolism were found by McCartney in 9,275 necropsy records. They were divided into four groups: I A, posttraumatic, fifteen cases; I B, postttraumatic with operation in consequence of injury, eight cases; II, postoperative, thirty-one cases; III, postpartum, three cases; IV, medical, sixteen cases. In the postoperative group, wound infection was present in seventeen cases. In twenty-seven of the thirty-one postoperative cases, embolism occurred during the first two weeks.

Color of Skin and Corium Pigmentation.—In this case, Strong noted that an abnormal occurrence of melanophores was found in the superficial corium. The epidermis was practically devoid of pigment. In normal human skin, a yellow component is contributed by discrete melanin granules in the epidermis. When the epidermis contains little or no melanin pigment and there is much melanin packed closely in masses in the corium, a bluish cast to the skin may be expected. Many cases of Addison's disease show an increased corium pigmentation. Some of these have little or no pigment in the epidermis, and the skin then has a bluish cast. In such cases, the melanophores occur largely or entirely in the papillae of the corium.

Chronic Appendicitis.—The histologic material on which Rohdenburg's paper is based consists of 3,214 appendixes. Productive inflammation of the appendix occurred in 42 per cent of the specimens. There were twenty-one cases of tuberculosis; twelve cases of carcinoma; one case each of lipoma, polyp and diverticulum; 1,374 cases of productive appendicitis; 1,275 cases of acute suppurative appendicitis, and 437 cases of acute catarrhal appendicitis.

Fat Content of Normal Thyroid.—Seventy fresh thyroid glands from persons varying in age from 22 hours to 86 years were examined by Jaffé. All the thyroids except six (from children, aged 22 hours, 4 days, 5 days, 6 weeks, 3 months and 11 months, respectively) contained fat. There was little fat in the glands of nine children whose age ranged from 6 months to 13 years. The thyroid of a girl, aged 15 years, who died of acute encephalitis, showed a large number of fat droplets in the epithelial cells. In the other cases the amount of fat varied greatly, dependent not only on age but also on other conditions. Generally speaking, the glands rich in lipins were more common after the fortieth year than earlier. But even in very old people, a thyroid with little fat was found occasionally. On the other hand, glands with much fat were not exceptional in persons under 30 years of age. Diseases do not seem to influence the fat content. Under the same pathologic conditions, all possible grades of fat accumulations may be observed. Thus, of eleven cases of carcinoma, three presented thyroids with little fat, two with medium amounts and five with large quantities. In the same thyroid, and even in the same vesicle, the individual epithelial cells show differences in the lipoid content. Cells with little fat border on cells crowded with it.

Racial and Age Incidence of Malignant Tumors.—In a total of 6,670 necropsies analyzed by Pearl and Bacon, some form of malignant tumor was found in 12.2 per cent of the cases. Carcinoma occurred much more frequently than did malignant tumors which were not carcinomas. Malignant tumors of all sorts taken together occur from two to three times more frequently, relatively, among white persons than they do among colored persons, and more frequently, relatively, among females than they do among males. Persons with carcinoma die at a much higher average age than those with sarcoma (or other noncarcinomatous malignant tumor). The colored persons who die with malignant tumors tend to do so at an earlier age, on the average, than do white persons, and females tend to die at an earlier age than do males.

Bilirubin Content of Bile in Diseased Gallbladders.—The bilirubin content of bile from 105 diseased gallbladders was compared by Caylor and Bollman with the anatomic changes in these organs. Certain pathologic conditions of the gallbladder are accompanied by definite alterations of the bilirubin content of the gallbladder bile. In these conditions the organ as a whole is affected. In acute inflammatory cholecystic disease, empyema, hydrops (cystic gallbladder) and contracted gallbladder, the concentrating activity is absent. In cholecystitis with papillomas, associated with hypertrophic rugae, the concentration of bile is definitely increased. Between these two extremes, a wide variation of the bilirubin content is found.

Relation of Parathyroid Extract to Calcification.—Hueper states that repeated injections of parathyroid extract apparently stimulate the production and calcification of osteoid tissue. Necroses seen in the myocardium and in the cortex of the suprarenal gland after the repeated administration of parathyroid extract point to the dangers connected with its therapeutic use.

Boston Medical and Surgical Journal

196: 763-802 (May 12) 1927

Duodenal Atresia and Stenosis in Infancy. A. Thorndike, Jr., Boston. —p. 763.

196: 973-1030 (June 16) 1927

Group Practice. P. E. Truesdale, Boston.—p. 973.
Lister: 1827-1927. D. Cheever, Boston.—p. 984.
*Glycerol-Cholesterol Precipitation Reaction in Syphilis. W. A. Hinton, Boston.—p. 993.
*Dermatitis Following Intramuscular Injection of Bismuth Compounds. J. L. Grund, Boston.—p. 996.
Avulsion Fracture of Os Calcis. H. G. Lee, New Haven, Conn.—p. 1000.

196: 1075-1122 (June 30) 1927

Surgical Aspects of Pancreatic Disease. J. B. Deaver, Philadelphia. —p. 1085.
Relationship Between Posture and Ptosis. F. E. Wheatley and H. Moore, Boston.—p. 1089.

Glycerol Cholesterol Precipitation Reaction in Syphilis.—Hinton has found that Wassermann-positive serums would completely precipitate or, serologically speaking, agglutinate a suspension of cholesterol in a glycerinated hypertonic solution of sodium chloride containing the merest trace of beef muscle extract, and would leave a water-clear fluid containing distinct masses of cholesterol, while Wassermann-negative serums would leave the suspension visibly unchanged (evenly turbid), or at most with such finely divided flakes that the fluid appears turbid. The addition of glycerol evidently contributes to the precipitating effect, resulting, in the case of Wassermann-positive serums, in the formation of large aggregates of cholesterol with a consequent complete clearing of the fluid. It was further found that glycerol protected the cholesterol suspension against adventitious agents which otherwise would disturb its equilibrium unfavorably. This protection has specifically resulted in the preparation of a suspension containing all of the ingredients ready for use which, when properly made, will keep unimpaired at least six weeks. Furthermore, the addition of the glycerol has made it possible to employ with advantage a lesser amount of alcoholic muscle extract than was used in previously described

methods, and still utilize the maximum amount of cholesterol. The reaction reported is said to be more sensitive, and has not given the false positive results which sometimes occurred with the Kahn test.

Bismuth Dermatitis.—Four cases of bismuth dermatitis are described by Grund. Three manifested skin lesions essentially similar to those previously reported; the fourth presented primary skin changes totally dissimilar. The value is shown in one case of treatment with fractional doses of the roentgen ray in bringing about a final disappearance of the itching remains of the eruption, after continued treatment with a solution of sodium thiosulphate.

Illinois Medical Journal, Oak Park

51: 421-500 (June) 1927

Education or Enlightenment of Public. G. H. Mundt, Chicago.—p. 443.
Treatment of Impacted Fracture Dislocation of Epiphyses. H. L. Baker, Chicago.—p. 445.
Chronic Diarrhea. W. A. Brams, Chicago.—p. 446.
Diagnosis of Lung Tumors. H. J. Isaacs, Chicago.—p. 451.
Study of Pulmonary Disease. A. Arkin, Chicago.—p. 456.
Tuberculosis Situation Abroad. R. S. Berghoff, Chicago.—p. 461.
Colon. A. A. Goldsmith, Chicago.—p. 465.
*Argyria. E. B. Freilich and M. Dorne, Chicago.—p. 467.
Cutaneous Plastics. J. Urkov, Chicago.—p. 469.
Case of Addison's Disease. A. M. Butzow, Chicago.—p. 471.
Appendicitis and General Practitioner. H. A. Felts, Marion.—p. 473.
Early Manifestations of Mental Disease. A. M. P. Saunders, Chicago.—p. 475.
Postoperative Pulmonary Embolism. J. W. Hamilton, Mount Vernon.—p. 478.
Vesicovaginal Fistula. F. F. Wisniewski, Chicago.—p. 483.
Effect of Radium in Chronic Passive Congestion of Posterior Urethra. L. C. DuBois, Chicago.—p. 489.
Unresolved Pneumonia of Unusually Long Duration. A. H. R. Krueger, Chicago.—p. 491.
Eye Lashes Sign. R. Lemchen, Chicago.—p. 494.

Argyria.—The patient reported on by Freilich and Dorne had been taking a capsule containing bismuth subgallate, 5 grains (0.3 Gm.), mild silver protein, 5 grains (0.3 Gm.), and codeine, ⅛ grain (8 mg.) four times a day for five years. She gave a history of pain in the epigastrium for about five years, associated with nausea and vomiting and loss of weight. There was diffuse, generalized blue gray pigmentation of the skin of the face, body and extremities. A metallic deposit was present on the gums at the margin of the teeth. The heart and lungs were normal. There was some tenderness in the right epigastric region of the abdomen.

Journal of Cancer Research, Lancaster, Pa.

10: 393-490 (Dec.) 1926

Transplantation of Larvae of Taenia Crassicollis. Experimental Subcutaneous Cysticercus Sarcoma. F. D. Bullock and M. R. Curtis, New York.—p. 393.
Enzyme Action: XLIV. Comparative Lipase Actions of Some Transplantable Rat, Mouse and Chicken Tumors. H. M. Noyes, K. Sugiura and K. G. Falk, New York.—p. 422.
*Breakdown of Hereditary Immunity to Transplantable Tumor by Introduction of Irritating Agent. E. Jones, Boston.—p. 435.
*Supposed Multiple Factors in Chicken Sarcoma. M. Cutler, New York.—p. 450.
*Formation of Gastric Carcinoma in Albino Rats Fed on Deficient Diets. Y. Fujimaki, Tokyo, Japan.—p. 469.
*Botelho's Reaction for Cancer Serum. M. C. Reinhard and K. L. Tucker, Buffalo.—p. 478.
Availability of Young Chicks for Tumor Transplantation. K. Sugiura, New York.—p. 481.

Breakdown of Hereditary Immunity to Tumor.—An experiment was performed by Jones to test the effect of an irritating agent in the production of susceptibility to an inoculable tumor in nonsusceptible strains of mice. Sterilized, nondyed, pure wool flannel has been used as the irritant. Histologic examination and inoculations of the "induced" tumors into different strains of susceptible and nonsusceptible mice indicate that growth of the original tumor has been induced through the presence of the flannel, and that the neoplasms are not growths of the host tissue.

Multiple Factors in Chicken Sarcoma.—The effect of chloroform on the infectivity of the Rous tumor filtrate was studied by Cutler, and an attempt was made to confirm the presence of two factors in the filtrate. The extreme difficulty in reaching the proper end-point in the chloroform treatment of the filtrate, the inability to obtain a positive substitution result with any consistence, and the numerous biologic variations beyond experimental control did not permit confirmation of the presence of two factors in the Rous tumor filtrate.

Deficient Diet Causes Gastric Carcinoma.—Personal observations of experimental animals lead Fujimaki to conclude that a vitamin A free diet has a certain relationship with the formation of carcinoma.

Botelho's Serum Reaction for Cancer.—Serums from fifty cancerous persons and eight noncancerous persons, and from five animals, were examined by Reinhard and Tucker by means of Botelho's serum reaction. All gave a positive reaction. The precipitate which is formed depends on the presence of serum albumin and serum globulin. Tryptophane is the only amino-acid of those examined which reacted positively.

Journal of General Physiology, Baltimore

10: 623-836 (May 20) 1927

Action of Roentgen Rays on Protozoan Colpidium Colpoda. H. Clark, New York.—p. 623.
Time Relations of Growth: III. Growth Constants During Self-Accelerating Phase of Growth. S. Brody, Columbus, Mo.—p. 637.
Kinetics of Exosmosis of Water from Living Cells. M. McCutcheon and B. Lucke, Philadelphia.—p. 659.
Effects of Salt Concentration of Medium on Rate of Osmosis of Water Through Membrane of Living Cells. B. Lucke and M. McCutcheon, Philadelphia.—p. 665.
Permeability of Membranes: II. Determination of Ionic Transfer Numbers in Membranes from Concentration Chains. L. Michaelis, R. M. Ellsworth and A. A. Weech, Baltimore.—p. 671.
Id.: III. Electric Transfer Experiments with Dried Collodion Membrane. L. Michaelis, A. A. Weech and A. Yamatori, Baltimore.—p. 685.
Activation of Starfish Eggs by Acids: II. Action of Substituted Benzoic Acids and of Benzoic and Salicylic Acids as Influenced by Their Salts. R. S. Lillie, Chicago.—p. 703.
Relationship Between Circumference and Weight in Trees and Bearing on Branching Angles. C. D. Murray, Cambridge, Mass.—p. 725.
Micrurgical Studies in Cell Physiology: III. Action of CO_2 and Some Salts of Na, Ca and K on Protoplasm of Ameba Dubia. P. Reznikoff and R. Chambers, New York.—p. 731.
Id.: IV. Colorimetric Determination of Nuclear and Cytoplasmic p_H in Starfish Egg. R. Chambers and H. Pollack, New York.—p. 739.
Geotropism of Agriolimax. E. Wolf, Cambridge, Mass.—p. 757.
Oxygen Consumption of Frog Nerve During Stimulation. W. O. Fenn, Rochester, N. Y.—p. 767.
Kinetics of Dark Adaptation. S. Hecht, Naples, Italy.—p. 781.
Hydration of Gelatin in Solution. M. Kunitz, Princeton, N. J.—p. 811.

New Jersey Medical Society Journal, Orange

24: 275-340 (May) 1927

Centenary of Laënnec. H. L. Harley, Atlantic City.—p. 275.
Prolonging Existence After 70. J. M. W. Kitchen, East Orange.—p. 279.
Keeping Normal Obstetric Case Normal. A. W. Bingham, East Orange.—p. 280.
Ophthalmia Neonatorum. L. Weiss, Newark.—p. 290.

Northwest Medicine, Portland, Ore.

26: 227-276 (May) 1927

Prolapse of Female Genitalia. G. C. Schauffler, Portland.—p. 227.
Papillary Cystadenoma of Ovary: 100 Cases. A. L. Mayfield, Rochester, Minn.—p. 236.
Mucous Polypi of Cervix Uteri. C. F. Fluhmann, San Francisco.—p. 244.
Sampson Tumor of Lower Sigmoid Causing Dysmenorrhea. C. W. Sharples, Seattle.—p. 249.
Spondylitis Deformans. P. N. Jepson, Rochester, Minn.—p. 250.
Commonly Confused Disabilities of Hip Joint in Children. R. B. Dillehunt, Portland.—p. 254.
Acrodynia: Six Cases. G. Chown, Winnipeg, Man.—p. 257.
Pediatrics in General Practice. F. B. Evans, Dover, Idaho.—p. 260.

26: 277-326 (June) 1927

Aspects of Hypertension. G. F. Strong, Vancouver, B. C.—p. 277.
Use of Insulin in Treatment of Certain Nondiabetic Conditions of Infancy and Childhood. V. W. Spickard, Seattle.—p. 282.
Basal Disease of Lungs in Children. H. A. Rawlings, Vancouver, B. C.—p. 284.
Dick Test and Scarlet Fever Immunization. H. L. Moon, Seattle.—p. 286.
Lobar Pneumonia: Delayed Recognition in Infants and Children. G. A. Lamont, Vancouver, B. C.—p. 287.
*Congenital Mixed Tumor in Kidney Region. L. H. Smith, Portland, Ore.—p. 289.
Neuritis. H. L. Parker, Rochester, Minn.—p. 290.
University Health Service and Medical Profession. F. N. Miller, Eugene, Ore.—p. 298.
Adenoma of Thyroid. F. R. Menne, Portland, Ore.—p. 304.
*Bacteriogenic Etiology of Goiter. G. B. Leitch, Portland, Ore.—p. 309.
Tabetic Arthropathy. A. H. Galvin, Hollywood, Calif.—p. 311.
Depressed Forehead Following Killian Operation: Repaired by Fat Grafts. J. H. Harter, Seattle.—p. 313.

Congenital Mixed Tumor of Kidney.—Smith relates the case of a girl, aged 17 months, who died of a malignant dis-

ease. At the autopsy a small round cell sarcoma was found, probably primary in the retroperitoneal region of the abdomen; sarcomatosis (metastases occurring in the periosteum of the skull, sella turcica, sphenoid, ethmoid, left temporal fossa, right lower mandible and pleural surface of ribs); distortion of the shape of both kidneys and the pancreas by the pressure of the tumor, and marked chronic emaciation and anemia.

Bacteriology of Toxic Goiter.—The bacteriology of twenty-five toxic goiters was studied by Leitch. In not a single instance was an organism isolated which could be traced to the thyroid.

Ohio State Medical Journal, Columbus

23: 447-542 (June) 1927

Through Form to Substance. L. L. Bigelow, Columbus.—p. 472.
Relation of High Proteid Feeding to Production of Arteriosclerosis. J. E. Benjamin and C. B. Wiedemer, Cincinnati.—p. 477.
Gynoplastic Repairs of Old Lacerations Following Childbirth: 537 Cases. J. L. Bubis, Cleveland.—p. 480.
Surgical Treatment of Brain Traumas. N. W. Gillette, Toledo.—p. 483.

Oklahoma State Med. Assoc. Journal, Muskogee

20: 161-187 (June) 1927

Pellagra. F. M. Adams, Vinita.—p. 161.
Pellagra in Southeastern Oklahoma. G. E. Harris, Hugo.—p. 163.
Athrepsia (Marasmus). K. C. Reese, Tulsa.—p. 164.
Preventive Medicine in Infancy and Childhood. C. H. Hall, Oklahoma City.—p. 167.
Things Not Cardiac. F. G. Dorwart, Muskogee.—p. 168.
Treatment of Acute Rheumatic Fever. C. K. Logan, Hominy.—p. 169.
Infant Feeding with Acidified Milks. W. A. Rupe, St. Louis.—p. 171.
Quinine Hypersensitiveness Following Rectal Analgesia. C. E. White, Muskogee.—p. 174.

Philippine Islands Med. Assoc. Journal, Manila

7: 143-188 (May) 1927

Chemical Analysis of Blood in Forty-Eight Normal Individuals. I. Concepción and M. Ocampo, Manila.—p. 143.
*Unidentified Micro-Organism Isolated from Acute Vegetative Endocarditis Among Lepers in Culion. F. Solis, Culion.—p. 155.
Genito-Urinary Patient and Hospital. M. N. Tuason, Manila.—p. 159.
Pathologic Incidence of Lobar Pneumonia in Philippine Islands. J. Z. S. Cruz, Manila.—p. 162.

Bacteriology of Acute Vegetative Endocarditis.—From the blood during life, and the heart valves and other organs at the necropsy, of twelve cases of acute bacterial vegetative endocarditis, Solis isolated a gram-negative bacillus with an average length of 2 microns and a thickness of 0.8 micron. The patients in whom this organism was found had specific serum agglutinins. The normal serum of lepers, as well as that of nonlepers, can agglutinate this organism at 1:10 dilution, but not at 1:20. Inoculations of massive doses of the organism into animals always gave negative results. The organism is probably related to the genus *Hemophilus* of the family Hemophilae, differing from the only three groups recognized by the Committee of the Society of American Bacteriologists in that it especially affects the valves of the heart and not the respiratory system, the conjunctiva or the genital organs.

Philippine Journal of Science, Manila

32: 421-569 (April) 1927

*Effect of Carbon Tetrachloride, Chenopodium and Thymol on Ova of Expelled Hookworms. C. Manalang, Zamboanga.—p. 507.
*Intrahepatic Administration of Drugs. F. A. Fidelino and P. A. Pañgan, Manila.—p. 557.

Carbon Tetrachloride and Tetrachlorethylene for Hookworm.—The ovicidal property of carbon tetrachloride, Manalang says, confirms its superiority over chenopodium and thymol in the treatment of ancylostomiasis. Tetrachlorethylene has also been found to be ovicidal.

Intrahepatic Administration of Drugs.—Fidelino and Pañgan assert that intrahepatic administration is at least partly intravenous or intracardiac injection. The effects of caffeine and epinephrine on the frog's heart are variable when these drugs are administered by the intrahepatic route. They may cause depression or stimulation, depending on the condition of the heart at the time of the injection. Ringer's solution and plain physiologic sodium chloride solution injected intrahepatically produce cardiac stimulation which is sometimes indistinguishable from that caused by caffeine or epinephrine. The intrahepatic administration is convenient for demonstrating the effects on the heart of cardiac depressants, the antagonism of atropine and pilocarpine and the increased tone produced by digitalis.

Porto Rico Medical Association Bulletin, San Juan

20: 1-55 (Sept.) 1926

Medical Impressions of Antilles. W. Sharpe.—p. 1.
Control of Diphtheria by Schick Test and Immunization of Susceptibles. E. Garcia Lascot.—p. 10.
Place of Dispensary in Fight Against Tuberculosis. E. Martinez Rivera.—p. 17.
Propaganda for Refrigeration of Milk in Porto Rico. J. Belaval.—p. 25.

20: 1-46 (Dec.) 1926

Intravenous Administration of Mercurochrome. J. C. Ferrer.—p. 7.
Semeiology of Tongue in Diseases of Digestive Tract. M. Quevedo Báez.—p. 11.
Local Anesthesia. M. Diaz Garcia.—p. 17.

21: 1-46 (Feb.) 1927

Diseases of Stomach, Liver and Pancreas. E. Vadi.—p. 11.
Hematoma of Decidua. A. Ortiz Romeu.—p. 33.

21: 1-50 (May) 1927

Pyelography. I. G. Martinez.—p. 5.
*Cancer. M. Diaz Garcia.—p. 27.
*Asthma, Hay-Fever and Other Allergic Diseases in Porto Rico. R. M. Suárez.—p. 29.

Cancer in Porto Rico.—Diaz Garcia is of the opinion that cancer is a very commonly occurring disease in Porto Rico. Of 34,457 deaths occurring in 1917-1918, 397 were from cancer. In 1925, of 31,350 deaths, 494 were from cancer. Among 1,000 patients admitted to a general hospital, there were forty cases of cancer occurring as follows: stomach, eight; uterus, eight; breast, six; skin and lips, three; tongue and larynx, three; upper jaw, two; other organs, ten. Among 800 private cases, there were thirty cases of cancer occurring as follows: uterus, ten; stomach, six; breast, three; skin and lips, four; elsewhere, seven.

Hay-Fever in Porto Rico.—Suárez reports on the results of his treatment of 204 cases occurring in patients between the ages of 2 and 67 years. Thirty-five patients were less than 10 years of age. All of 62 per cent with positive skin reactions gave multiple reactions. Only one case was positive to only one substance or food. The Pirquet test was positive in two children; two had intestinal parasites. The blood calcium and the chemical reactions of the blood generally were normal in all cases. Tuna fish, silk and the pollen of Indian corn gave positive reactions in all the cases. Under treatment, 40 per cent of the adults and 80 per cent of the children treated were cured; 80 per cent of all patients were markedly improved. Suárez reports the first typical cases of hay-fever diagnosed, treated and cured in Porto Rico.

Public Health Reports, Washington, D. C.

42: 1617-1681 (June 17) 1927

Reorganization of National Health Service of Chile. J. D. Long, Washington, D. C.—p. 1617.
Recent Developments in Sewage Chlorination. L. H. Enslow, New York.—p. 1623.

Society Exper. Biol. & Med. Proc., New York

24: 733-805 (May) 1927

*Effect of Organ Extracts on Blood Regeneration. A. Jeney and J. W. Jobling, New York.—p. 733.
*Effects of Repeated Injections of Toxins of Intestinal Bacteria on Blood Regeneration in Rabbits. P. R. Sapinoso and J. W. Jobling, New York.—p. 734.
*Effect of Bile, Sodium Salts of Bile Acids, and Unsaturated Fatty Acids on Bacteriophagic Action. G. M. Kline, Albany, N. Y.—p. 735.
Structure of B. Anthracis and Reversal of Gram Reaction. J. W. Churchman, New York.—p. 737.
*Reciprocal Influence of Concomitant Infections: Syphilis and Vaccinia. L. Pearce, New York.—p. 739.
*Dietary Deficiency with Highly Purified Diets. H. M. Evans and G. O. Burr, San Francisco.—p. 740.
*Filtrability of B. Tuberculosis. R. R. Mellon and E. Jost, Rochester, N. Y.—p. 743.
Peptone Hypoglycemia. V. E. Levine, Omaha.—p. 744.
Diet and Tissue Growth: VI. Relation of Age to Renal Injury on Diet Rich in Protein. A. H. Smith, T. S. Moise and M. H. Jones, New Haven, Conn.—p. 746.

Changes in Oxygen Capacity of Blood Pigment in Rabbits Following Splenectomy. B. B. Stimson, New York.—p. 748.
Gold Preparations in Therapy. C. N. Myers, C. W. Hooper and B. Throne, New York.—p. 749.
*Carbon Dioxide and Toxin Production: Diphtheria Toxin. W. N. Plastridge and L. F. Rettger, New Haven, Conn.—p. 752.
Testicular Lesions in Rabbits Following Intraspinal Syphilitic Infection. G. W. Raiziss and M. Severac, Philadelphia.—p. 756.
*Antirachitic Activity of Monochromatic and Regional Ultraviolet Radiations. A. F. Hess and M. Weinstock, New York.—p. 759.
Proptoplasmic p_H of Living Cells. R. Chamber, H. Pollack and S. Hiller, New York.—p. 760.
Effect of Changes of Blood p_H on Reaction of Heart to Cocaine. W. Salant and J. E. Nadler, Augusta, Ga.—p. 762.
Feeding Experiments with Plants at Different Stages of Development: III. Synthesis of Vitamin in Plants. M. Karshan, F. Krasnow and B. Harrow, New York.—p. 765.
Organic Heart Disease: Changes in Carbon Dioxide Combining Capacity of Blood Following Exercise. H. W. Schmitz and M. Preston, Irvington, N. Y.—p. 766.
Life History of Blepharisma Undulans. L. L. Woodruff, New Haven, Conn.—p. 769.
Inheritance of Atypical Form in Paramecium Aurelia. I. Moore, New Haven, Conn.—p. 770.
Precipitable Substances of B. Typhosus and B. Paratyphosus B. J. Furth and K. Landsteiner, New York.—p. 771.
Influence of Peptic Digestion on Protective Colloid Value of Gelatin. A. G. Olsen and M. S. Fine, Battle Creek, Mich.—p. 773.
Rôle of Viscosity in Milk Modification. A. G. Olsen and M. S. Fine, Battle Creek, Mich.—p. 774.
Identity of Precipitin and Complement Fixing Substances in Syphilitic Serum: I. R. L. Kahn, J. L. Landau and E. McDermott, Lansing, Mich.—p. 775.
*Relation of Internal Secretion of Ovaries to Cholesterol Metabolism. L. Berman, New York.—p. 778.
Life Span of Epinephrectomized Cats. E. L. Corey, New Haven, Conn.—p. 779.
Effects of Pituitary Extract on Distribution of Injected Fluid. C. E. Leese, H. R. Jacobs and H. M. Hines, Iowa City.—p. 780.
Comparative Study of Extent of Knee-Jerk and Achilles-Jerk. W. W. Tuttle, Iowa City.—p. 782.
Experimental Study of Ovarian Regeneration in Mice. H. O. Haterius, Iowa City.—p. 784.
Acid Intoxication of Suprarenal Insufficiency in Dogs. F. F. Yonkman, Iowa City.—p. 786.
Colorimetric Estimation of Hydrogen Ion Concentration of Blood. V. C. Myers and E. Muntwyler, Iowa City.—p. 789.
Effects of Ultraviolet Radiation on Hydra. R. E. Deal, Iowa City.—p. 791.
Sedimentation Rate of Erythrocytes and Plasma Protein Following Prolonged Chloroform Anesthesia in Dogs. M. D. Rourke and E. D. Plass, Detroit.—p. 793.
Sulphate Reducing Bacteria in California Oil Waters. R. Gahl and B. Anderson, San Francisco.—p. 796.
Effect of Heparin on Anaphylactic Shock in Guinea-Pigs. O. B. Williams and F. R. van de Carr, San Francisco.—p. 798.
*Nonsympathomimetic Action of Ephedrine. F. De Eds and E. M. Butt, San Francisco.—p. 800.
Tuberculosis: XI. Neutralization of Filtrable Tubercle Toxin with Sheep Antiserum. F. Eberson, Berkeley-San Francisco.—p. 802.

Effects of Organ Extracts on Blood Regeneration.—Extracts of various organs were used by Jeney and Jobling on rabbits made anemic by bleeding. The most positive results were obtained with alcoholic spleen extracts. In every instance this extract prevented blood regeneration, and if the injections were continued the animal died.

Effects of Toxins of Intestinal Bacteria on Blood Regeneration.—Emulsions of feces from a patient with pernicious anemia were injected into rabbits by Sapinoso and Jobling. All the animals developed an anemia of the secondary type, beginning after the third or fourth injection. At times, remissions occurred in spite of the continued injections, but they were usually of brief duration. Only an occasional nucleated red cell was observed. The reticulated cells were slightly increased at times, but for the most part they remained within the normal limits. The white count remained low. Very little, if any, change was observed in the size and shape of the red cells. Practically no immunity was produced, as doubling the dose of toxin would frequently kill animals which had received many previous injections.

Effects of Bile, Bile Salts and Acids on Bacteriophagic Action.—In the studies made by Kline of the action of bile on bacteriophage, *B. coli*, *B. typhosus* and *B. dysenteriae*, Shiga and Mount Desert strains were used with bacteriophages obtained from stool filtrates and from culture filtrates. In no case was there any inhibition of the bacteriophage in the presence of bile.

Reciprocal Influence of Concomitant Infections.—The result of simultaneous inoculations of *Spirochaeta pallida* and vaccine virus has been studied by Pearce. The character of the syphilitic infection has been markedly affected by such simultaneous inoculation. With the intracutaneous injection of vaccine virus, the severity of the syphilitic process was greatly increased. On the other hand, the syphilitic infection which developed after the combined injection of vaccine virus and syphilitic material in the same testis was modified in the direction of decreased severity. The mildness of the disease in these rabbits as compared with the controls was very striking. An immunity to vaccine virus present at the time of syphilitic inoculation was also associated with alterations in the manifestations of the infection and, in general, the disease was less severe than in the controls. The reaction to vaccine virus under the condition of simultaneous inoculation with syphilitic material is accelerated and exaggerated. This was also the case in many instances in which syphilitic rabbits were vaccinated.

Dietary Deficiency with Highly Purified Diets.—To the pure diet of casein, sucrose and salts, Evans and Burr add 800 mg. of yeast plus 10 Gm. of fresh lettuce leaf, or 0.5 Gm. of fresh beef liver. Animals on this diet equal in growth the best animals on natural foods. The pure diet, when supplemented by these amounts of lettuce or liver, also allows gestation and the birth of good litters.

Filtrability of Tubercle Bacillus.—A series of twenty-one guinea-pigs was inoculated by Mellon and Jost with the Berkefeld filtrates of tuberculous material. In twelve animals so far examined at autopsy, acid-fast bacilli have been identified in the direct smears from the lung, and the inguinal and tracheobronchial glands of three of the animals. No definite evidence of tuberculosis was found by histologic methods, except in the lungs of two of the animals that reacted positively. The lesions did not differ materially from those found in the lungs of one out of twelve control animals examined.

Carbon Dioxide and Toxin Production.—Plastridge and Rettger found that carbon dioxide plays an important rôle in toxin production by preventing the destruction of the toxin, once it is formed. This is probably done by regulating the reaction of the medium.

Antirachitic Activity of Ultraviolet Radiations.—The antirachitic activity of two bands of radiations given off by the mercury vapor lamp—those less than 290 millimicrons in length and those between 290 millimicrons and 313 millimicrons—have been tested directly by Hess and Weinstock by irradiating rachitic rats. It was found that radiations shorter than 290 millimicrons, in other words, shorter than those produced by the sun, exert a more intense antirachitic effect than the most potent region of the solar spectrum. This result is in accordance with clinical experience.

Relation of Ovarian Secretion to Cholesterol Metabolism.—Pig ovary follicle fluid injected by Berman into normal female cats caused a decrease in the blood cholesterol. This decrease did not occur in male cats. Ovariectomized cats showed an increase in the blood cholesterol. This increase can be reduced by the injection of pig ovary follicle fluid, and also by the injection of ovarian extracts shown to be active by the vaginal smear method. This work shows that the ovarian hormone regulates the cholesterol content of the blood.

Nonsympathomimetic Action of Ephedrine.—It is concluded by De Eds and Butt that ephedrine is not sympathomimetic in its actions on the blood pressure, uterus and probably bronchi, the action being muscular. This and the greater chemical stability of the alkaloid suggest why its actions are better sustained than those of epinephrine.

South Carolina Med. Assoc. Journal, Greenville

23: 361-380 (May) 1927

Blood Pressure Lowering Effect of Cucurbocitrin in Man. G. P. Wilkinson, Greenville.—p. 366.

23: 379-410 (June) 1927

Observations in European Clinics. O. B. Mayer, Columbia.—p. 382.
Effects of Autonomous Tumors. K. M. Lynch, Charleston.—p. 388.
Chronic Duodenal Ielus. D. P. D. Wilkie, Edinburgh.—p. 393.
Principles of Syphilotherapy as Applied to Eye. J. H. Stokes, Philadelphia.—p. 395.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Actinotherapy, London

2: 21-40 (May) 1927

*Treatment of Rickets with Irradiated Cholesterol. R. Aidin.—p. 24.
*Ultraviolet Radiation and Diet. S. Churchill.—p. 27.
Evolution of Man's Knowledge of Light. R. C. Macfie.—p. 29. C'cn.

Irradiated Cholesterol in Rickets.—Aidin states that the solar ultraviolet rays acting on the skin produce a photochemical change in some substance in the skin that acquires antirachitic properties. The nature of this substance is as yet a matter of conjecture, but the available evidence suggests that it is similar to or identical with the vitamin-precursor of the laboratory. Whatever the substance in the skin is that acquires antirachitic properties, it is certain that it is absorbed by the blood and, acting like a hormone controls the metabolism of the body, particularly the deposition of calcium in the bones. Whether the skin itself forms the vitamine-precursor is unknown; it may be that the liver which is rich in cholesterol forms the vitamin-precursor, which is carried by the blood stream to the skin, and is there activated. If this hypothesis is correct, the skin resembles a ductless gland, pouring out a hormone into the blood. This function of the skin is active during the period of rapid growth in infancy and early childhood, and again perhaps at puberty.

Ultraviolet Radiation and Diet.—Cholesterol activated in vitro and administered by mouth is found to have antirachitic properties. Irradiation of any of the vitaminless oils containing sterols similarly gives them antirachitic properties. The latest researches show that ergosterol can be activated by artificial ultraviolet irradiation and that it will, in very minute quantities, enable rats to grow up free from rickets when fed on a vitamin-free diet. Churchill feels that more evidence would be advisable on this point before feeding young children solely an irradiated diet, free from vitamins.

British Journal of Dermatology and Syphilis, London

39: 187-240 (May) 1927

*Intolerance to Sugar as Factor in Production of Dermatoses. G. G. Campbell and J. F. Burgess.—p. 187.
Epithelioma Adenoides Cysticum. N. Paul and K. Inglis.—p. 195.
Scleroderma and Syphilis. E. Murray-Will.—p. 201.

Sugar Intolerance Causes Dermatoses.—Campbell and Burgess assert that the temporary rise in the blood sugar which occurs in those who exhibit intolerance to sugar is also concerned in the prodution of skin lesions, mainly of the dermatitis type, and that a diet, restricted as regards carbohydrates, may bring about a cure of these lesions when other methods have failed. They have had one case of complete relief from senile pruritus in a woman, aged 86, and several cases suggestive of rapid cure of purulent skin lesions, such as psychosis and furunculosis.

British Journal of Ophthalmology, London

11: 209-256 (May) 1927

Parenchymatous Keratitis in Trypanosomiasis in Cattle, Dogs and Man. H. Neame.—p. 209.
Case of Sympathetic Ophthalmitis. D. J. Wood.—p. 217.
Calcium Deficiency in Blood in Spring Catarrh and Malignant Myopia. D. J. Wood.—p. 224.
Case of Sympathetic Inflammation Associated with Intra-Ocular Sarcoma. T. H. Butler and J. J. Evans.—p. 230.
Case of Emphysema of Conjunctiva. L. M. Ligertwood.—p. 233.

British Journal of Radiology, London

32: 119-158 (April) 1927

Technic and Interpretation in Cholecystography by Oral Method. W. H. Stewart and E. J. Ryan.—p. 119.
So-Called Gastric Hypertonus and Gastroptosis, and Atonic Dilatation of Stomach. A. F. Hurst.—p. 131.
Diagnostic Importance of Pneumoperitoneum. A. E. Uspensky.—p. 141.
Roentgen-Ray Diagnosis of Diseases of Diaphragm. A. E. Uspensky.—p. 143.

32: 159-198 (May) 1927

*Immediate Effects of Roentgen Rays on Living Animal Tissues. J. G. Stephens and H. Florey.—p. 159.
Calcification of Pericardium. H. W. Jones and R. E. Roberts.—p. 167.
Esophageal Obstruction from Diverticulum. J. V. Sparks.—p. 172.
Skiagrams of Full-Time Ovarian Pregnancy. T. I. Candy.—p. 175.
Dermoid Cyst of Back Containing Teeth. C. B. Fuller and F. F. C. Jagger.—p. 176.
*Fractures of Wrist Joint. C. C. Anderson.—p. 179.
Case of Incomplete Patellar Ossification. J. B. Higgins and H. M. Morris.—p. 180.

Effects of Roentgen Rays on Tissue.—The possibility of ultraviolet fluorescence excited within the tissues by roentgen rays is considered by Stephens and Florey as a possible mechanism operating in the production of effects by roentgen rays. No immediate fall of blood pressure or alteration in respiratory rate occurred during prolonged irradiation. It is suggested that previous results are explicable as due to electrical leakage, and not to the action of roentgen rays.

Fractures of Wrist Joint.—Anderson reports a case of fracture of the trapezium caused by hyperextension of the thumb, and one of fracture of the cuneiform caused by compression while cranking an automobile.

Edinburgh Medical Journal

34: 253-320 (May) 1927

Skull of Mongolian Imbecile. D. M. Greig.—p. 253. (To be continued.)
*Bearing of High Blood Pressure, Glycosuria and Albuminuria on Performance of Operations. A. E. Maylard.—p. 275.
*Substitution of Flocculation Test for Wassermann Reaction. H. F. Watson.—p. 291.

Bearing of Blood Pressure on Operations.—Maylard concludes that modern surgery, considered in its most comprehensive meaning, admits of patients being treated by operation for any expedient and even necessary reason, with but little fear of any untoward result consequent on the existence of any of these three special symptoms. "Modern" surgery is the adoption of adequate preoperative, operative and postoperative measures suited to each condition.

Flocculation Test for Syphilis.—Watson tested 1,211 serums from both syphilitic and nonsyphilitic patients by the Wassermann and flocculation methods. There was agreement in 1,173, or 96.86 per cent, and disagreement in thirty-eight, or 3.13 per cent. Of the latter, 0.41 per cent yielded positive Wassermann reactions with negative flocculation tests, while 2.76 per cent gave positive flocculation reactions with negative Wassermann tests. The discrepancies between the two reactions are discussed, and the general results tend to favor the flocculation reaction as a reliable serum test in the diagnosis of syphilis.

Indian Medical Gazette, Calcutta

62: 179-238 (April) 1927

Puerperal Eclampsia: Treatment. C. A. F. Hingston and A. L. Mudaliar.—p. 179.
Puerperal Sepsis: Bacteriology. C. A. F. Hingston and A. L. Mudaliar.—p. 182.
Use of Fishes for Control of Mosquitoes. S. L. Hora.—p. 187.
Flood and Flush Schemes—Ancient and Modern: Site of Ancient City of Gour, Malda District, Bengal: Incidence of Malaria. S. L. Sarcar.—p. 188.
Deleteriousness of Potable Spirits on Indian Market. R. N. Chopra.—p. 195.
"Dermal Leishmanoid." B. M. D. Gupta.—p. 199.
*Differential Diagnosis of Smallpox and Chickenpox. J. W. Tomb.—p. 199.
Lathyrism in Gilgit Agency. L. H. L. Mackenzie.—p. 201.
*Incidence of Tuberculosis in Calcutta. N. B. Gupta and H. K. Dutt.—p. 202.
*Causal Organism of Cholera. F. J. Palmer.—p. 204.
Case of Dermatolysis. M. Umar.—p. 208.

Diagnosis of Smallpox and Chickenpox.—Tomb bases the differential diagnosis of chickenpox and smallpox on the time interval elapsing between the "date of onset of fever" and the "date of outbreak of eruption." In the case of chickenpox, this period never exceeds twenty-four hours. In the case of smallpox, the interval always exceeds forty-eight hours.

Incidence of Tuberculosis in Calcutta.—Out of 1,330 persons subjected to the Pirquet test by Gupta and Dutt, 501 gave a positive reaction. The percentage of positive reactions was greater in the Bengalis (37 per cent) than among the other castes (26 per cent).

Causal Organism of Cholera.—An intensive study made by Palmer of films from more than sixty cases of clinical cholera leads him to assert that there is no evidence that the comma bacillus plays any part in its causation. On the evidence of

films, clinical cholera in Cachar would appear to be associated with a small coccobacillus which often assumes a bipolar staining form. Whether this is identical with the small spore-bearing bacillus is not yet certain. The other organisms present, such as spirochetes, are not constant, and probably represent secondary growths in rice water fluid of organisms which find conditions suitable for their rapid growth. Clinical cholera in Cachar has been found associated with infection, presumably due to pig's feces.

Indian Medical Record, Calcutta

47: 97-128 (April) 1927

Tuberculosis in India. G. C. Chatterjee.—p. 97.
Case of Cerebral Malaria with Loss of Speech. I. S. Dave.—p. 100.

Journal of Laryngology and Otology, Edinburgh

42: 293-364 (May) 1927

Spreading Osteomyelitis of Skull. D. M'Kenzie.—p. 293.
Congenital Absence of Tympanic Element of Both Temporal Bones. D. M. Greig.—p. 309.
Case of Congenital Deafness, Showing Malformation of Bony and Membranous Labyrinths on Both Sides. J. S. Fraser.—p. 315.
Graphic Method of Representing Tuning Fork Tests. C. S. Hallpike.—p. 322.
Malignant Disease of Orbit. J. A. Gibb.—p. 328.

Journal of State Medicine, London

35: 249-310 (May) 1927

Medical Examinations and Welfare in Cotton Factories. W. F. Dearden.—p. 249.
Classification of Symptoms of Pulmonary Tuberculosis. S. V. Pearson.—p. 259.
Aspects of Tuberculosis Problem in Industrial City. G. B. Dixon.—p. 266.
Vocational Selection from Point of View of Welfare Worker. J. B. Longmuir.—p. 278.
Legal Protection of Woman Worker. R. F. Lyne.—p. 287.
Industry and Smoke Abatement. M. A. C. Brereton and I. M. Horobin.—p. 293.

Medical Journal of Australia, Sydney

1: 595-630 (April 23) 1927

Anesthesia and Newer Anesthetics: Ether. R. Howden.—p. 596.
Id.: Intratracheal Administration of Ether. F. W. Green.—p. 598.
Id.: Nitrous Oxide and Oxygen. W. S. Newton.—p. 599.
Id.: Ethylene and Oxygen. G. L. Lillies.—p. 601.
Dr. William Palmer, Poisoner. F. K. Norris.—p. 604.
Food Supply for Natives in Papua. W. M. Strong.—p. 607.
*Ectopic Pregnancy in Three Sisters. W. L. Crowther.—p. 610.
*Sequel to Fracture of Elbow. S. Goldberg.—p. 611.
Carcinoma of Right Lung. H. T. Illingworth.—p. 611.

1: 631-666 (April 30) 1927

Treatment of Congenital Spastic Paraplegia by Sympathetic Ramisection. N. D. Royle.—p. 632.
Blood Pressure in Leg in Aortic Regurgitation. E. F. Gartrell.—p. 642.
Malarial Therapy in General Paralysis. R. S. Ellery.—p. 647.
Ileal Intussusception in Adult. A. Pryde.—p. 648.

Ectopic Pregnancy in Three Sisters.—Ectopic pregnancy having occurred in each of three sisters, Crowther suggests the possibility of a congenital or familial cause being present. The mother of the three women concerned had had eight children, and did not remember having had any abdominal crisis suggestive of such an accident.

Fracture of Elbow.—Goldberg reports a case of typical main en griffe following reduction of a fracture of the medial epicondyle. After four weeks of diathermy treatment there was complete recovery of both the sensory and motor functions of the ulnar nerve.

Acta Dermatologica, Kyoto, Japan

9: 321-424 (April) 1927

*Therapeutic Action of Arsphenamine Administered Intravenously by Mouth and by Rectum in Experimental Rat Bite Fever of Rabbits. S. Watanabe and M. Abe.—p. 333.
Changes in Form and Fatty Infiltration of Epithelial Cells of Frog's Peritoneum in Vitro Cultures. H. Mitsuhashi.—p. 335.
Culture of Epithelia in Vitro: II. Citiated Epithelium. S. Ishikawa.—p. 363.
Seroreaction of Experimental Framboesia. Y. Ikegami.—p. 381.
Influence of Excision of Sympathetic Ganglion on Epitheliomatous Vegetation Due to Tarring. T. Shimoda.—p. 391.
Recurring Circumscribed Edema of Conjunctiva Bulbi Sinistra in Chronic Pyelitis and Paroxysmal Tachycardia. I. Asai.—p. 399.
So-Called Callus Swelling of Schuchardt in Male Urethra. A. Fukai and S. Tajima.—p. 406.

Intravenous Administration of Arsphenamine Best.—Intravenous administration of arsphenamine yielded the best results, and rectal administration was the least effective. Untoward effects were not noted by Watanabe and Abe.

Journal of Oriental Medicine, Dairen, S. Manchuria

6: 31-51 (April) 1927

Roentgenology of Male Urethra. T. Miyata and H. Kajikawa.—p. 31.
Value of Bronchography with Lipiodol. J. Murakami, H. Nishida and T. Miyata.—p. 39.
Effect of Some Hormones on Avitaminosis of Pigeons. Y. Jono.—p. 42.
*Effect of Cold on Animal Body. S. Yamaguchi.—p. 44.
*Acidosis in Cases of Beriberi and Nephritis. H. Senga and Y. Yasutomi.—p. 45.
*Agglutination of Typhoid Bacilli with Blood Serum of Pulmonary Tuberculosis. T. Yamaguchi.—p. 46.
Lipoma of Parotid. K. Shimotsuma and K. W. Kuo.—p. 48.
Catalase Content of Blood in Chronic Morphine Poisoning. K. Sata.—p. 50.
Floating Kidney. K. Horie.—p. 51.

Effect of Cold on Blood.—Yamaguchi asserts that cold causes a distinct leukopenia, lowers the resistance of the erythrocytes and increases blood viscosity and clotting.

Cause of Acidosis in Beriberi and Nephritis.—Senga and Yasutomi believe that the cause of acidosis in beriberi as well as in nephritis is the abnormal overproduction of acid in the body rather than the disfunction of the kidneys alone.

Agglutination of Typhoid Bacilli with Tuberculosis Blood Serum.—Yamaguchi states that the blood serum in cases of pulmonary tuberculosis in all its stages agglutinates typhoid and paratyphoid bacilli in a dilution as high as 400 times. In the period which yields severe symptoms, the agglutination of the serum for typhoid bacilli is very strong, but when the symptoms diminish, the agglutination also diminishes.

Naval Medical Association Bulletin, Tokyo

16: 3-4 (May) 1927

Occurrence of Pleurisy in Japanese Navy. S. Sugawara.—p. 3.
Treatment of Pleurisy in Minato Naval Sanatorium. T. Suzuki.—p. 4.
Subcutaneous Rupture of Double Kidney. S. Kudo.—p. 4.

Okayama Medical Journal, Okayama, Japan

448: 593-770 (May) 1927

Bile Acids: Action on Heart. T. Hosokawa.—p. 593.
Electrical Investigation of Alcoholic Nerve Extract Emulsoid Particles. K. Kumagai.—p. 605.
Connections of Corpus Mamillare: I. Pedunculus Corporis Mamillaris. K. Yamagata.—p. 641.
Ileocecal Carcinoma: Etiology of Complicating Ileocecal Invagination. Y. Otsubo.—p. 668.
Blood Picture of So-Called Encephalitis Epidemica (Type B) Near Okayama. K. Hara.—p. 702.
Icterus: Lattice Fibers of Liver. I. Kurose and M. Hasimoto.—p. 717.
Diuretin Hyperglycemia. N. Sugimoto.—p. 743.

Tohoku Journal of Exper. Med., Tokyo, Japan

8: 355-500 (April 19) 1927

Comparison of Cat Paradoxical Eye Reaction and Rabbit Intestine Strip Method for Assay of Epinephrine Content of Blood of Cat. T. Sugawara.—p. 355.
Investigations on Rhodein, Active Glycoside of Rhodea Japonica Roth. T. Murashima.—p. 405.
Studies on Fluid Exchanges: I. T. Yamaguchi.—p. 449.
*Influence of Dilute Acids on Action of Digitalis Infusion. H. Takahashi.—p. 491.
*Colorimetric Method for Determination of Sodium. S. Yoshimatsu.—p. 496.

Effect of Dilute Acids on Digitalis.—Takahashi states that the addition of from 0.05 to 0.1 per cent hydrochloric acid solution to digitalis infusion does not lessen its effectiveness; therefore, it is of value to make such an addition to insure the keeping qualities of the infusion.

Determination of Sodium.—A colorimetric method for the determination of sodium in 0.1 cc. of serum or blood, both ashed and unashed, is described by Yoshimatsu. This method has an average deviation of ± 3 per cent from the Kramer-Tisdall or the Kramer method. Sodium added to the serum may be recovered almost quantitatively.

Bulletin de l'Académie de Médecine, Paris

97: 605-624 (May 17) 1927

*Lesions of the Eye from Smallpox Vaccine. Delord and Villard.—p. 607.
*Repeated Vomiting in Infants. Rousseau-Saint-Philippe.—p. 612.
Cases of Treated General Paralysis from the Forensic Standpoint. H. Claude.—p. 614.
The Preclinical Stage of Neurosyphilis. P. Ravaut.—p. 616.
*Epinephrine in the Suprarenals and in Extracts. G. Mouriquand and A. Leulier.—p. 621.

Grave Lesions of the Eye Caused by a Drop of Smallpox Vaccine.—While a physician was opening a tube containing smallpox vaccine, a drop of the vaccine penetrated into his left eye. In a few hours the eye became inflamed. Three days later he presented a severe conjunctivitis with iritis, and after five days iridocyclitis which developed into glaucoma by the end of a month. The lesions gradually became worse, so that, two months after the accident, enucleation of the eye was required to avert menacing sympathetic ophthalmia. The disturbances in the remaining eye vanished rapidly after the operation. Several similar cases are recorded in the medical literature, all in members of the medical profession. The possibility of this occurrence, Delord and Villard say, should be borne in mind by those who manipulate vaccinal pulp. In case of such an accident, the eye should be washed out with an antiseptic solution so thoroughly as to make sure that not a trace of the vaccine remains.

Causes and Treatment of Repeated Vomiting in Infants.—Rousseau-Saint-Philippe found that repeated vomiting observed in infants during the first days or the first months after birth is connected with dyspepsia at least in 95 per cent of the cases. In the remaining, it is occasioned by congenital obstruction of the pylorus. The disease occurs more frequently in breast fed infants. The puerperal condition, constipation, intestinal infection, phlebitis, lymphangitis, nervous disorder, latent syphilis or tuberculosis in the mother may be responsible for the presence of an injurious substance in the maternal milk. The treatment consists in administration of alkalis, pepsin and hydrochloric acid, also ipecac and rhubarb. Inhalation of oxygen is a useful adjuvant. In cases of pyloric stenosis operation is indicated.

Epinephrine in the Suprarenal Glands and in Extracts.—Mouriquand and Leulier recall their previous experiments which showed that the amount of epinephrine was insignificant in the suprarenals of healthy guinea-pigs, removed as soon as the animals were killed. The amount was doubled or trebled when the glands were left for a day in a vacuum in the presence of sulphuric acid. Evidently, a part of the epinephrine is undetectable in fresh suprarenals. This "virtual" part of the epinephrine is not discovered by the usual reactions. In further experiments, the suprarenals were removed one day after the animals were killed. In this case, the total amount of the epinephrine (the virtual and the free epinephrine) was found to be reduced by one half or by three quarters. The results may have a practical value in organotherapy.

Comptes Rendus de la Société de Biologie, Paris

96: 581-660 (March 11) 1927. Partial Index

Potential Property of Bidder's Organ in Toads. K. Ponse.—p. 595.
*Edema Fluid in Vaccination Against Anthrax. A. Urbain and L. Rossi.—p. 599.
Nervous and Body Fluid Factors of Growth in Frogs. M. Aron.—p. 624.
*Chlorine and Sodium in Organs of Persons Without Nephritis. L. Blum and D. Broun.—p. 638.
*Chlorine and Sodium in Organs of Persons with Uremia. L. Blum and D. Broun.—p. 640.
*Pathogenesis of Uremia. L. Blum and D. Broun.—p. 642.
*Chlorine and Sodium in Organs of Persons with Diabetic Coma. L. Blum et al.—p. 643.

Edema Fluid in Vaccination Against Anthrax.—Rabbits were injected with edema fluid obtained from rabbits dead with anthrax. Then they were inoculated with lethal doses of anthrax bacilli. The animals resisted the infection. The intradermal route proved to be more effectual for the vaccination than the venous or subcutaneous route.

Chlorine and Sodium in Organs of Persons Without Nephritis.—Blum and Broun examined the organs of persons dead from various diseases other than nephritis. The content of chlorine ranged from 1 to 2 Gm. in all organs except the kidneys, in which it was over 4 Gm. The amount of sodium varied much more. There was 1 Gm. in the skin; 12 Gm. in the gray cerebral matter. The authors also measured the chlorine and the sodium in organs of twelve patients dead from uremia. Retention of chlorine was manifest in various organs; especially in the brain. It was doubled or trebled in the white matter; increased from four to seven times the normal in the gray matter. The sodium was increased or normal. Increase of chlorine in the gray cerebral matter was found in uremia with azotemia, in convulsive uremia with or without azotemia, and in acute and chronic nephritis. Evidently, chemical changes in the cerebral tissue play an important if not a predominant rôle in the pathogenesis of uremia.

Chlorine and Sodium in Organs of Persons with Diabetic Coma.—Blum, in collaboration with Grabar and Thiers, evaluated the content of chlorine and of sodium in the organs of a woman dead from diabetic coma. An increase of chlorine was present in various organs. It was highest in the gray cerebral matter. The fact suggests that insulin should be combined with sodium bicarbonate in treatment of diabetic coma.

Journal d'Urologie, Paris

23: 193-288 (March) 1927

*Guiding Principles of Urology. Marion.—p. 193.
Latent Gonococcus Infection. Durupt and Nogués.—p. 202.
Surgery of the Vesical Muscle. Richer.—p. 210.
Diathermy Plus Autohemotherapy in Treatment of Gonorrhea. V. Marselos.—p. 237.

The Leading Principles of Urology.—In a lecture delivered at the Hôpital Lariboisière, Marion listed the principles which should guide the physician in the diagnosis and treatment of genito-urinary diseases. Among them are the following: In case of obstruction of the urethral bulb, Béniqué's sound is reliable. Hematuria, occurring in patients with prostatic hypertrophy, may be attributed to the latter after all other factors have been carefully eliminated. In cases of urinary retention from prostatic hypertrophy, catheterization should be replaced by cystostomy. Spontaneous or recurring cystitis or cystitis resistant to treatment suggests tuberculosis. Catheterization of the ureters must be preceded by examination of the bladder. Roentgen rays are helpful in renal pyuria in which tuberculous infection cannot be definitely established. In cases of renal calculi, the entire urinary tract should be examined with the roentgen ray. Vaccines may be used when more radical measures cannot be employed.

Nourrisson, Paris

15: 65-128 (March) 1927

Anemias in Infants. Lesné and Langle.—p. 65.
Disseminated Gangrene of the Skin in Young Children. R. Turquety and R. Broca.—p. 88.
*Craniotabes and Rickets. A. B. Marfan.—p. 99.

Craniotabes and Rickets.—Craniotabes usually develops within the first three months of life; it may also be congenital. In the latter case, the thinned spots in the infantile skull are situated around the bregma; in the former, they are found around the lamboid suture and the asterion. The congenital as well as the acquired variety, Marfan asserts, presents the first manifestation of rickets. It is followed by other deformities of the bones. The succeeding rickets may be slight or grave, persisting for months or for years. Anatomic and histologic examination confirms the rachitic character of craniotabes. Syphilis should always be suspected, since it is the most frequent factor in early rickets. The treatment does not differ from that of rickets.

Presse Médicale, Paris

35: 689-704 (June 1) 1927

*Therapeutic Value of Synthalin in Diabetes. H. Chabanier and M. Lebert.—p. 690.
*Desensitization Treatment in Asthma. W. Spoujitch.—p. 692.

Significance of Synthalin in Treatment of Diabetes.—This substance was used by Chabanier and Lebert in nineteen cases of grave and in eight of mild diabetes. In the grave cases, synthalin was given alternately with insulin, or the two were used at the same time. Glycosuria, which vanished under the influence of insulin, reappeared as soon as insulin

was replaced by synthalin. The latter caused loss of appetite, considerable loss in weight and a marked general weakness. The unfavorable effect of synthalin was evident when it was given together with insulin. It was found to be unsatisfactory also in treatment of mild cases. The authors conclude that so far synthalin has proved to be without practical value.

Desensitization Method in Treatment of Asthma.—Spoujitch's experience includes thirteen patients, aged from 22 to 75, with asthma of from two to twenty years' standing. Diphtheria antiserum was used to induce slight shocks. The first injection contained from 0.25 to 0.5 cc. of the serum. If a reaction did not appear the following day, from 2.5 to 5 cc. of the serum were given. The reaction usually occurred between the fifth and eleventh days. After this, slight shocks were induced with from 0.5 to 1 cc. of the same serum once a week. The injections were given subcutaneously at from seven to ten day intervals and the treatment was continued for from two or three months. The attacks of asthma soon became attenuated. They disappeared for from six weeks to thirteen months. On recurrence, a new series of injections was given. By-effects were never observed.

Schweizerische medizinische Wochenschrift, Basel

57: 481-504 (May 21) 1927

*Herpes of Cornea and Accidents. A. Vogt.—p. 481.
*Mechanism of Action of Insulin. H. Staub.—p. 483.
Trichomonas Pulmonalis in Putrid Bronchitis. H. Marx.—p. 487.
Heart Rhythm in Chloroform Anesthesia. E. Frommel.—p. 490.

57: 505-532 (May 28) 1927

This issue contains the proceedings of the 13th Congress of the Swiss Surgical Society, held in June, 1926. The main topic was: Acute Necrosis of the Pancreas.

Herpes of the Cornea and Trauma.—Injury to the eye apparently predisposed Vogt's patients to the development of the herpes of the cornea.

Mechanism of Action of Insulin.—Staub concludes that insulin accelerates the oxidation of sugar and the formation of glycogen in the muscles, not in the liver. Its action on the autonomic nervous system and on glycogenolysis in the liver is antagonistic to that of epinephrine.

Policlinico, Rome

34: 745-778 (May 23) 1927

Chronic Ulcerous Colitis. P. Alessandrini.—p. 743.
Syphilitic Cervical Adenopathy. G. Lionetti.—p. 750.

34: 205-252 (May 15) 1927. Surgical Section

Congenital Radio-Ulnar Synostosis. O. Pepi.—p. 205.
Syphilis of the Mammary Gland. G. Pinardi.—p. 219.
*Bradycardia in Injuries of the Liver. G. Ricciuti.—p. 229.
The Glomeruli in Compensatory Hypertrophy of the Kidney. F. Speciale. —p. 234.
Sarcoma of Tunica Vaginalis. P. Valdoni.—p. 244.

Bradycardia in Injuries of the Liver.—Ricciuti confirms Finsterer's observations on absolute or at least relative bradycardia in destructive injuries of the liver (from bullets or contusions). Relative bradycardia is assumed if the frequency of the pulse is normal, when tachycardia would be expected. Increased frequency of the pulse does not exclude the possibility of injury of the liver, but bradycardia speaks strongly in favor of it. A slow pulse may be present in spite of internal hemorrhage.

Archiv für exp. Pathologie und Pharmak., Leipzig

121: 259-386 (April) 1927

*Narcotics and the Rotation Reflex in the Frog. H. Gayer.—p. 259.
*Sedatives in Experiments on Animals. K. Fromherz.—p. 273.
Antagonism of Insulin and the Thyroid. O. Ehrismann.—p. 299.
*Gas Metabolism in Poisoning of the Central Nervous System. H. Licht. —p. 320.
Respiration in Dynamic Hyperthermia. H. Rietschel et al.—p. 332.
*Hepatic Circulation and Diuresis. H. Kunz and H. Molitor.—p. 342.
Action of Combined Drugs. E. Käer.—p. 358.
*Quantitative and Optimal Action of Insulin. K. Holm.—p. 368.

122: 1-128 (April) 1927

Phlorhizin Diabetes. W. Kempner.—p. 1.
Blood Sugar in Phosphorus Poisoning. I. Ivančević.—p. 24.
The Blood in Rachitic Rats. E. Woenckhaus.—p. 44.
Morphine Miosis. C. Amsler.—p. 61.
The Blood Picture and Nucleal Staining. K. Voit.—p. 66.
Toxicology of Halogen Alkyls. C. Bachem.—p. 69.
Determination of Bromine. F. Ottensooser.—p. 77.
Detoxication in the Organism. E. Keeser.—p. 82.
Tests for Pituitary Preparations. K. Csépai and S. von Pintér-Kovátz. —p. 90.
Hydrogen Ion Concentration and Solubility of Uric Acid. A. Jung.—p. 95.
Bath for Surviving Organs. S. Loewe.—p. 121.
"Inhibition of Exudation by Pituitary Extracts." L. T. Poulsson.—p. 127.
"Pyrogenic Substances." J. Donath and R. Heilig.—p. 128.

Narcotics and the Rotation Reflex in the Frog.—Gayer used Gauss' rotation reflex in the frog as indicator for minimal narcotic effects. It is especially suitable for investigation of the barbital group. He also developed a sensitive method for testing narcotics on mice: a normal mouse will climb down a vertical metal rod without sliding. The animal slides down when under the influence of a narcotic.

Sedatives in Experiments on Animals.—The action of various narcotics (alcohol, pyrazolon derivatives, morphine) was tested by Franherz on mice trained to select a certain path according to its color. He made the surprising observation that disturbances of orientation occurred only when the lower motor functions were considerably affected. Before ataxia became evident, the mice made no errors in selecting the correct color.

Gas Metabolism in Poisoning of the Central Nervous System.—Licht injected 1 mg. of picrotoxin or 1.5 Gm. of sodium salt of santonin per kilogram of body weight into rabbits and guinea-pigs. The oxygen consumption of these animals decreased considerably. The lowering could be prevented by section of the spinal cord between the seventh and eighth cervical segments. These experiments confirm the theory that the cooling and spasm-inducing poisons act by irritation of a central nervous apparatus which inhibits exothermic processes.

Hepatic Circulation and Diuresis.—Kunz and Molitor made inverse Eck fistulas in dogs. In diuresis tests these animals eliminated water more slowly and less completely than before the intervention. Urea did not cause diuresis and pituitary extracts did not inhibit it to any marked degree. They attribute these phenomena to a change in the equilibrium between assumed hydrating and dehydrating substances in the liver rather than to simple hemodynamic changes. The animals recovered their normal diuretic responses after from three to eight weeks.

Quantitative and Optimal Action of Insulin.—It was found by Holm that the blood sugar of a normal dog, weighing about 9 Kg., does not decrease during a continuous injection of 0.25 unit of Dutch insulin per hour. The same amount of insulin was sufficient to keep the blood sugar normal immediately after pancreatectomy. Later on, 0.065 unit per hour was sufficient. In such a dog, the alimentary glycemia curve rises and decreases slowly, because there is no reflex increase in secretion of insulin. Epinephrine hyperglycemia from excitation is high, because it is not counteracted by an increased secretion of insulin. When the whole basal caloric requirement of the dog was covered by intravenous administration of dextrose (3.5 Gm. per hour), it was necessary to inject six times more insulin (0.4 units per hour). This would indicate that the carbohydrate equivalent of insulin was 8.75 Gm. of dextrose per unit. Application of these figures to a man weighing 60 Kg. would imply that 7.8 units of insulin per day would be sufficient if he abstained from food, and 48 units, if his total basal caloric requirement were covered by sugar—even if he had no pancreas. He believes that the majority of experimental studies on insulin deal with insulin poisoning, not with its physiologic action.

Biochemische Zeitschrift, Berlin

183: 245-491 (April 7) 1927

Plasma Proteins. W. Starlinger et al.—p. 245.
Quinine Derivatives, Action of Enzymes and Acidity. J. A. Smorodinzew and A. N. Adowa.—p. 274.
Antagonism Between Insulin and Epinephrine. B. von Issekutz.—p. 283.
Microdetermination of Dextrose. B. v. Issekutz and J. von Both.—p. 298.
Hydrolysis of Silk Fibroin. N. D. Zelinsky and K. P. Lawrowsky.—p. 303.
*Blood Chlorides in Milch Cows. A. Krestownikoff.—p. 307.
Oxidation of Pyruvic Acid. B. Bleyer and W. Braun.—p. 310.
Influence of Medium on Respiration of Surviving Organs. H. Reinwein and W. Singer.—p. 315.

*B-Avitaminosis and the Suprarenals. E. Schmitz and M. Reiss.—p. 328.
Spectrophotometric Determination of Glycuronic Acid. G. Scheff.—p. 341.
Body Composition in Death from Starvation. E. Szörényi.—p. 350.
Dioxyphenylalanin in the Wings of the Dor-Bug. H. Schmalfuss and H. P. Müller.—p. 362.
Surface-Active Substances and Yeast Fermentation. H. Zeller.—p. 369.
Combined Action of Two Substances on Yeast Fermentation. H. Zeller. —p. 389.
Apparatus for Surviving Hearts of Mammals. Z. Aszódi and G. Ambrus. —p. 408.
Dialysis and Immune Substances. B. Sbarsky and K. Nikolaeff.—p. 419.
Catalase and Peroxidase in Epilepsy. I. Sachs and H. Zander.—p. 426.
Quinhydrone Electrode. I. M. Kolthoff and W. Bosch.—p. 434.
Correction Re New Series of Buffer Solutions. I. M. Kolthoff and J. J. Vleeschhouwer.—p. 444.
Silk Glue. N. Alders.—p. 446.
Yeast Fermentation and Charcoal. H. Iveković.—p. 451.
*Lactic Acid as Intermediary Product of Anoxybiotic Carbohydrate Metabolism. J. Stoklasa.—p. 461.
Adsorption and Osmosis of Alkalis into Gelatine and Lecithin. I. Suganuma.—p. 477.
Synthesis of Alpha-Keto-d-Gluconic Acid. C. Neuberg and T. Kitasato. —p. 485.

Blood Chlorides in Milch Cows.—Krestownikoff determined the blood chlorides in milch cows and in a goat before, during and after milking. In some of the experiments the concentration of the chlorides was found to be a little higher after milking than before, but the increase was rarely greater than the limits of error of the micromethod used.

B-Avitaminosis and Suprarenals. — Schmitz and Reiss injected suprarenal extract into pigeons fed on polished rice. The injections prevented the usual changes in the blood lipoids and the neuritic symptoms.

Lactic Acid as Intermediary Product of Anoxybiotic Carbohydrate Metabolism.—Stoklasa recalls his old work on the isolation of the lactic acid forming enzyme of the muscles and adds a report on his newer investigations. The beta and gamma rays of radium increase the anoxybiotic formation of lactic acid, while the alpha rays of ionium and of radon enhance the oxydative phase, in which the lactic acid disappears. He believes therefore that the rational foundation for the use of alpha rays in cancer is better than for that of beta and gamma rays.

184: 1-256 (April 27) 1927

Precipitation of Lime by Micro-Organisms. C. Naeslund.—p. 1.
Determination of Dioxyphenyl-Aminopropionic Acid and Tyrosin. H. Schmaltuss and H. Lindemann.—p. 10.
Mineral Salts and Metabolism. O. Kauffmann-Cosla and W. Zörkendörfer.—p. 19.
*Adsorption of Diphtheria Toxin by Erythrocytes. N. I. Griasnow.—p. 28.
Action of Diuretics in Allergic Conditions. L. Asher.—p. 31.
Synthesis of Vitamin B by Bacillus Vulgatus. A. Scheunert and M. Schieblich.—p. 58.
Carbon Determination. B. Lustig.—p. 67.
Iodine Metabolism. T. von Fellenberg.—p. 85.
Tryptic Digestion. E. Ehrenberg.—p. 90.
Volatile Substances in Food. J. König and W. Schreiber.—p. 105.
Secretion of Diastase. E. J. Lesser.—p. 125.
Decomposition of Illuminating Gas by Bacteria. W. Hasemann.—p. 147.
*Complement and Blood Clotting. H. J. Fuchs and M. F. von Falkenhausen.—p. 172.
Estimation of Tyrosinase. H. Haehn and J. Stern.—p. 182.
Gas Metabolism in Pigeons. O. Moltschanowa.—p. 187.
"Stimulating" Action on Single Cells. W. Heubner.—p. 189.
*Acid and Alkaline Postmortem Rigidity. L. Wacker.—p. 192.
Absorption Spectrum of the Blood. R. Suhrmann and W. Kollath.—p. 216.
Secretion of Bile. E. Neubauer.—p. 231.
Apparatus for Electrometric Determination of the p_H. F. Emslander.—p. 234.
Importance of Carbon Dioxide to the Plant Cell. A. Rippel and H. Bortels.—p. 237.
Production of Fibrinogen. F. Faludi.—p. 245.

Adsorption of Diphtheria Toxin by Erythrocytes.—Griasnow concludes that erythrocytes do not adsorb diphtheria toxin, and that investigators who have claimed the opposite overlooked the amount of water present in the emulsion of the cells.

Complement and Blood Clotting.—Fuchs and Falkenhausen believe that the complement plays a rôle in blood clotting.

Acid and Alkaline Postmortem Rigidity.—The alkaline reaction of muscles, which was noted by Kühne almost seven decades ago in starved animals, was investigated by Wacker. If the muscles contain enough glycogen, the acid valences prevail during postmortem rigidity. If the glycogen content of the muscles is depleted (by starvation or injections of strychnine or insulin) the postmortem rigidity sets in rapidly, but the reaction of such muscles is alkaline.

Dermatologische Wochenschrift, Leipzig

84: 361-388 (March 12) 1927

Analogies and Contrasts in the Pathology of Syphilis and of Tuberculosis. F. von Poór.—p. 361.
*Fatal Case of Bismuth Poisoning. J. Munck.—p. 367.
Sanocrysin Treatment of Leprosy. A. Paldrock and A. Rängel.—p. 372.

A Death from Bismuth Treatment.—A man, aged 45, received 5.13 Gm. of bismuth within eleven months. The urine was frequently examined for albumin, always with negative results. Symptoms of poisoning began with icterus and stomatitis. Later the temperature became subnormal and delirium set in. Twelve days after the onset of symptoms the patient died. Phenomena pointing especially to poisoning with the salts of a heavy metal were stomatitis with ulcerations and a dark line at the margin of the gums, nephrosis with oliguria, cylindruria and albuminuria, colitis with marked infiltration of leukocytes, fatty degeneration of the liver and of the heart muscle and emaciation. Large quantities of bismuth were found in the internal organs, particularly in the organs of excretion.

Deutsche medizinische Wochenschrift, Berlin

53: 907-952 (May 27) 1927

Views on General Anesthesia. H. Schlossmann.—p. 907.
Syphilis of the Liver. L. Frank and W. Worms.—p. 911.
Fibrous Perihepatitis in Syphilis. F. Peiser and W. Nissel.—p. 913.
Nonspecific Treatment of Chronic Arthritis. P. Spiro.—p. 914.
*Postoperative Acetonuria. W. Levy.—p. 916.
Treatment of Leukorrhea. A. Pinkuss.—p. 916.
Obstetric Examination. W. Fürst.—p. 920.
Mitigation of Labor Pains. E. Wehefritz.—p. 921.
Management of the Second Stage of Labor. G. Frommolt.—p. 923.
Retention of the Placenta or Its Fragments. H. Naujoks.—p. 925.
Chronic Septic Conditions. E. Fränkel.—p. 926.
Boas' Treatment of Hemorrhoids. G. Sultan.—p. 927.
Amebic Dysentery in Children. M. Buchmann.—p. 928.
*Difficulty in Learning to Read. Drenkhahn.—p. 928.
Quackery in Leningrad. I. S. Kraindel.—p. 930.
Medical Thinking. Goldscheider.—p. 931. C'cn.

Postoperative Acetonuria.—Levy noted acetonuria in excited patients even before operation. In one case, acetone appeared in the urine after concussion of the brain. He believes that the mental condition (fright and shock) of the patient has more to do with acetonuria than has anesthesia.

Difficulty in Learning to Read.—Drenkhahn, a former surgeon general, describes his own case and the troubles which he had at school because of his inability to combine the letters rapidly.

Deutsche Zeitschrift für Chirurgie, Leipzig

201: 145-288 (March) 1927

The Heart and Circulation in Cases of Arteriovenous Fistula. K. Kleinschmidt and W. Wachsmuth.—p. 145.
Embolism—Technic of the Melanin Coagulation Test. H. Killian.—p. 157.
Scabbard Trachea from Pressure by a Goiter. H. Nevinny.—p. 172.
*Renal Hemorrhages of Obscure Origin. R. Hückel.—p. 190.
*Renal Function Tests in Prostatic Hypertrophy. L. Lurz and Hammel. —p. 200.
Technic and Value of Roentgen-Ray Pyeloscopy. N. Moro.—p. 208.
Histology of Old Gastro-Enterostomy Cysts. H. Angerer.—p. 228.
*A Continent Artificial Anus. F. Mandl.—p. 243.
Sutures in Operation for Gastric Ulcer. W. Wynen.—p. 252.
Gastro-Enterostomy in Peptic Ulcer. K. Urban.—p. 255.
*The Gastric Capillaries in Peptic Ulcer of the Stomach. H. Schomberg. —p. 258.
Permanent Healing After Extensive Resection of the Small Intestines. A. Sohn.—p. 263.
Fistula of the Vitelline Duct. F. Diessl.—p. 266.
Clinical Diagnosis of Intratracheal Tumors. O. Maier.—p. 270.
Paraffin and Stearin Foreign Bodies in the Male Bladder. N. Moro.— p. 274.
Influence of Vasectomy on Hypertrophy of the Prostate. A. Henrichsen. —p. 278.
Carcinoma of the Penis and Circumcision. Sampoerno.—p. 282.

Renal Hemorrhages of Obscure Etiology.—In two cases of bloody urine from one kidney, the entire kidney was sectioned in the search for an anatomic cause. In each case a minute lesion was found in or close to the cortex; in one, rupture of an arcuate artery, in the other, rupture of a small varix. Hückel urges that the term "essential hematuria" should be dropped, and asserts the uselessness in such cases of anatomic examination that does not include the entire organ.

Renal Function Tests in Prostatic Hypertrophy.—Lurz and Hammel found the water test to be the most reliable, but it

must be corroborated by other tests. For the water test they administer 1,500 cc. of weak tea. They placed the greatest dependence on the difference between the highest and lowest specific gravity of the urine and on the total amount excreted. To justify prostatectomy, the difference between the highest and lowest specific gravity must be at least 15.

Utilizing Intestinal Prolapse to Obtain a Continent Sacral Anus.—Mandl induces prolapse by encouraging his patients to exert abdominal pressure. He draws the prolapsed intestine through the rectal sphincter, if this has been retained. By this method he has obtained a continent artificial anus in a number of patients. He has modified the method so that it can be used in cases in which the sphincter has not been retained, and reports the successful application of the modified operation in one case.

Microscopic Examination of the Capillaries in Resected Stomachs.—Specimens from twenty-one cases of ulcer of the duodenum and from fourteen cases of ulcer of the stomach were examined microscopically, and in all Schomberg found capillary changes significant of the "vasoneurotic diathesis."

Folia Haematologica, Leipzig

34: 1-64 (April) 1927

Is Pernicious Anemia a Constitutional Disease? Naegeli.—p. 1.
Vital Staining of Erythrocytes. C. Seyfarth.—p. 7.
Cultivation of Leukemic Blood. H. Hirschfeld.—p. 39.
*Electrostatic Charge of Blood Cells. H. Mommsen.—p. 50.

Electrostatic Charge of Blood Cells.—Mommsen investigated the staining of blood slides from the electrostatic viewpoint. The conception of oxyphilia or basophilia is only relative, since these qualities depend on the hydrogen ion concentration of the solution of the dye. The substances which accept a dye change their affinity when their iso-electric point is reached by the solution. If the solution is more acid, the substances become oxyphilic; if the hydrogen ion concentration of the solution is on the alkaline side of the iso-electric point of the stained substance, the latter becomes basophilic. Polychromophilia of the erythrocytes signifies that the immature erythrocytes carry a stronger negative electric charge. The optimum concentration for counting the polychromophilic erythrocytes is at p_H 5.65. The shape of the nucleus of the leukocytes may be a result of the relation of its electric charge to the charge of the cytoplasm. He found that neutrophilic granules of healthy subjects do not accept the dye at p_H 5.3, while it is possible to stain them with such a solution in various acute infections.

Klinische Wochenschrift, Berlin

6: 929-976 (May 14) 1927

Hemolytic Constitution. M. Gänsslen.—p. 929.
*Angina Pectoris. F. Külbs.—p. 933.
*Diabetes, Tuberculosis and Insulin. M. Rosenberg and G. Wolf.—p. 936.
Ergosterol Metabolism. H. Beumer.—p. 941.
*Movements After Section of the Spinal Cord. Danielopolu and A. Radovici.—p. 942.
*Determination of Blood Volume. H. G. Schieck.—p. 945.
Hemoglobin Changes and Water Metabolism. H. Marx.—p. 947.
Antibodies Reacting to Brain Extract in Syphilis. F. Georgi and Fischer.—p. 948.
The Stomach as Excretory Organ. H. Steinitz.—p. 949.
Prevention of Rickets. V. Bruck-Biesok et al.—p. 952.
Forearm Reflex. F. Schütz.—p. 953.
Pernicious Anemia. J. Neuburger.—p. 954.
Irradiation of Cancer of Cervix. H. Martius.—p. 956.
Recuperation. A. Schlossmann.—p. 960.

Angina Pectoris.—Three cases of angina pectoris in women, aged 36 and 41, are reported by Külbs. The attacks disappeared when the women were cured of diseases of the genital organs (endometritis and fibroid).

Diabetes, Tuberculosis and Insulin.—Rosenberg and Wolf report on forty patients with diabetes complicated by pulmonary tuberculosis. Tuberculosis as a rule lowers the sugar tolerance. Increased tolerance is rare. With large doses of insulin, the prognosis of tuberculosis in diabetic patients is the same as in nondiabetic subjects.

Movements After Section of the Spinal Cord.—Danielopolu and Radovici stimulated the peripheral end of the vagus in animals after section of the spinal cord. The irritation of the vagus was followed by movements of the paralyzed part of the body. They explain this phenomenon by the contraction of the viscera caused by the vagal stimulation and by a spinal reflex originating from this contraction.

Determination of Blood Volume.—Trypan red is preferred to congo red by Schieck. In man he found on the average a blood volume amounting to 7 per cent and a plasma volume of 3.4 per cent of the body weight. Two variables, namely the anticoagulant and the hematocrit make the exact determination of blood volume (not of plasma volume) impossible. Moreover, the blood volume is physiologically variable, as Barcroft demonstrated.

6: 977-1024 (May 21) 1927

Structure of Sympathetic System. P. Stöhr, Jr.—p. 977.
*Etiology of Weil's Disease. G. Baermann and M. Zuelzer.—p. 979.
Protein-Carbohydrate Diet in Treatment of Diabetes. R. Priesel and R. Wagner.—p. 985.
*Quinine-Fast Serum Lipase and Arsphenamine Treatment. W. B. Meyer and F. Buschke.—p. 987.
Internal Medicine and Peptic Ulcers. S. Simnitzky.—p. 991.
The Internal Ear in Whooping Cough Eclampsia. L. Singer.—p. 994.
Interpolar Ovarian Resection in Uterine Hemorrhages. F. Isbruch.—p. 995.
Heredity in Univitelline Twins. Leven.—p. 998.
*Ammonia Formation in Muscle. J. K. Parnas and W. Mozolowski.—p. 998.
*Placenta Hormone. E. Glimm and F. Wadehn.—p. 999.
*Alleged Spontaneous Cure of Intussusception. Trendtel.—p. 1000.
Intermittent Claudication. K. Mendel.—p. 1001.
Output of the Heart. R. Weiss.—p. 1004.

Etiology of Weil's Disease.—Baermann and Zuelzer recommend a diagnostic culture of 0.2 cc. of the patient's blood in 3 cc. of rabbit's serum diluted 10 to 1. The culture begins to grow in from six to thirty days. Guinea-pigs may be successfully inoculated if they are injected intraperitoneally with 5 cc. of blood on three successive days.

Quinine-Fast Serum Lipase and Arsphenamine Treatment.—Quinine-fast lipase was not found by Meyer and Buschke in the blood of syphilitic patients treated with arsphenamine. Either the drug does not injure the liver when given in therapeutic doses, or the method is not suitable for the investigation of this problem.

Ammonia Formation in Muscle.—Parnas and Mozolowski found that ammonia formed rapidly in injured muscles. The process is inhibited by a moderate degree of alkalinity. A fatigued muscle accumulates ammonia.

Placenta Hormone.—The isolation of a hormone from the placenta is reported by Glimm and Wadehn. The hormone causes hypertrophy of the uterus and provokes estrus in castrated mice.

Alleged Spontaneous Cure of Intussusception.—A woman reported to Trendtel that her child, aged 15 months, had been sick for a few days and that she had found a piece of intestine in the bed; the child had felt well since. On microscopic examination, the specimen, which had the macroscopic appearance of colon, proved to be decidua. The mother had been sleeping with the child and probably had had an abortion.

6: 1025-1072 (May 28) 1927

Development of Tumor Cell. B. Fischer-Wasels.—p. 1025. C'td.
Sea Air and Salt Baths. F. Müller.—p. 1029.
*Titration of Gastric Contents. L. Heilmeyer and W. Graubner.—p. 1035.
*Anaphylaxis and Roentgen Rays. E. Schneider.—p. 1037.
Sarcomatous Skin Tumors. W. B. Meyer.—p. 1038.
*A New Preformed Antiglycosuric Substance. C. von Noorden.—p. 1041.
*Inconstancy of Morphologic Blood Picture. A. Kobryner.—p. 1043.
Corrective Plastic Surgery of the Nose. B. Griessmann.—p. 1045.
Water Solubility of Ovarian Hormone. B. Zondek.—p. 1046.
Action of Serum on Isolated Blood Vessels. E. Friedberger.—p. 1047.
Action of Carbon Dioxide Baths. A. Schott.—p. 1047.
Meningococcus Sepsis. J. Spirt and M. Braun.—p. 1048.
Treatment of Ileus. E. Gohrbandt.—p. 1050.
Measures Against Misuse of Narcotics. E. Jöel and F. Fränkel.—p. 1053.

Titration of Gastric Contents.—Heilmeyer and Graubner conclude that the best method for clinical examination of gastric contents is the titration with dimethyl-amino-azobenzene and phenolphthalein, provided that a buffer-free test meal (the "alcohol meal") is used. In such a case the values for both end points are at the utmost fifteen acidity degrees apart. If the difference is greater, we may conclude that the stomach contains an abnormal amount of buffers. This is due to duodenal reflux, mucus, blood or cancer products. The method is of especial value for differentiating gastritis and cancer from simple achylia.

Anaphylaxis and Roentgen Rays.—Guinea-pigs were injected by Schneider with 0.1 cc. of horse serum and irradiated within forty-eight hours with roentgen rays. The anaphylactic shock produced by reinjection of the serum was prevented if the roentgen-ray dose was sufficiently large to cause the death of the animals in from twenty to thirty days. Smaller doses of rays and irradiation applied later than forty-eight hours after the injection only mitigated the shock.

A New Preformed Substance Which Combats Glycosuria.—A new preparation obtained by the action of enzymes on the pancreas is reported by von Noorden. It is administered by mouth. It seems that it may be substituted for about 20 units of insulin, especially in those patients who could get along without insulin.

Inconstancy of the Morphologic Blood Picture.—Kobryner found that the number of leukocytes varies considerably both in health and in disease. A decrease of 50 per cent occurs sometimes in one day. He attempted to treat leukemia with various vaccines. The results were negative, especially if we take into consideration that the number of leukocytes changes spontaneously.

Mitteil. a. d. Grenzgeb. der Med. und Chir., Jena

40: 131-276, 1927

Associated Ulcer and Diverticulum of the Duodenum. P. Rosenthal.—p. 131.
Endemic Goiter and Tuberculosis. O. Susani.—p. 146.
*Thyroid Secretion in Goiter. O. Susani.—p. 154.
Internal Drainage of a Pancreatic Cyst. P. Walzel.—p. 171.
*Changes in the Liver After Splenectomy. H. Dieterich.—p. 183.
Emptying of the Gallbladder Filled with Tetraiodphenolphthalein. A. Adler.—p. 196.
*Venous and Arterial Air Embolism. K. Hutter.—p. 205.
Diagnosis of Syphilis of the Stomach. E. Gäbert.—p. 224.
Surgical Treatment of Adhesive Pericarditis. Guleke.—p. 252.

The Storage of Secretion by the Thyroid, Its Relation to Goiter and the Action of Iodine.—Susani finds that the secretion of the thyroid is increased by stimulation of the sympathetic (perhaps also by iodine) and is decreased by section of the sympathetic and by iodine. The outflow is checked by stimulation of the parasympathetic and by iodine, and increased by section of the parasympathetic and by iodine. Iodine exerts a general tranquillizing influence on the nervous system, acting in an inhibiting sense on whichever portion of the sympathetic-parasympathetic is in the more excited and labile condition. He distinguishes three forms of exophthalmic goiter: A, the constitutionally neurotic thyrogenous form (including general endocrine disturbances); B, the thyrogenous neurotic form from loss of colloid substance; C, the thyrogenous neurotic form with increase in both the formation and the outflow of the secretion. Group B may pass over into group C after it has persisted for a certain length of time. For cases classed under group A, general treatment, as recommended by F. Glaser, is most suitable; little is to be expected from surgery. In group B success is proportional to the amount of thyroid tissue removed; iodine should not be given. Good results are achieved with iodine and with ergotamine in group C; section of the sympathetic has also been successfully tried in this group.

Changes in the Liver After Extirpation of the Spleen.—Dieterich experimented on white rats. In one series he removed the spleen; in another he injected trypan blue subcutaneously; in the third he removed the spleen and later injected trypan blue. The animals were observed over long periods (up to nine months after the splenectomy) and liver tissue was excised at intervals for examination. In the experiments of the first series, the earliest hepatic changes were found twenty-six days after the splenectomy. They consisted of dilatation of the intra-acinous capillaries and in enlargement and increase in number of Kupffer's cells. Extensive proliferation of these cells was not, however, seen, nor were any important transformations in the liver observed then or later. The collections of cells noted by M. B. Schmidt in the mouse were not seen. Injections of trypan blue, on the other hand, called forth the changes that regularly follow splenectomy in the mouse. The reaction induced in the vicinity of the blood vessels can be compared to inflammatory changes. In the experiments with splenectomy and trypan blue, it was clear that splenectomy alone was unable to bring about the changes that followed the later treatment with the dye. The experiments did not give a clear answer to the question whether or not the injection of trypan blue increased or hastened the changes caused in the liver by the loss of the spleen.

Air Emboli in the Veins and Arteries.—Hutter discusses the prognosis, prevention and treatment of air embolism. The prognosis of venous embolism is not necessarily bad, if the embolism is confined to the right side of the heart and to the pulmonary vessels, especially if the amount of air is small. In arterial embolism, on the other hand, the smallest quantity of air is sufficient to cause death. Venous embolism may be transformed into arterial embolism, through the presence of an open foramen ovale. Operations in which there is a possibility of opening veins the walls of which have slight contractility are especially dangerous from the point of view of air embolism. Such are osteotomies on extremities, trephinings of the skull, goiter excisions and removal of the axillary glands in breast cancer. Among preventive measures, Hutter mentions a bloodless field for operations on bones of the extremities, covering the surface of the wound with wet cloths, or directing a stream of sodium chloride solution over it, or, where there is danger of air entering veins in the floor of a cavity, allowing the cavity to fill with blood. Where the risk is in the direction of arterial embolism, morphine used before operations under local anesthesia and after operations diminishes the danger from coughing and from pain reactions. Quiet, shallow breathing lessens the danger of puncturing the lung in interventions on the thorax. Positive pressure should be instantly available. In exploratory puncture, the needle should be withdrawn, under compression of the puncture wound, before the syringe is detached. The changing of dressings is an occasion of particular danger, and rigid drains must be avoided. Various proposals for overcoming an established embolism are discussed; there is little unanimity as to their value. The roentgen ray may be useful in deciding the question of operating on the heart.

Münchener medizinische Wochenschrift, Munich

74: 795-834 (May 13) 1927

*Epidemiology of Venereal Diseases. A. Buschke et al.—p. 795.
*Synthesis of Remedies. H. Hörlein.—p. 801.
*Buffered Stains for Anemic Blood. J. Kleeberg and N. Leitner.—p. 805.
Hydrochloric Acid and Ether in Diagnosis of Peptic Ulcer. J. Olivet.—p. 807.
Color Index. H. Neumann.—p. 809.
Treatment of Scoliosis. Gaugele.—p. 810.
Unfounded Anxiety About War Malaria. Poleck.—p. 812.
Seven Laparotomies for Foreign Bodies. M. Liebers.—p. 815.
Two Unusual Obstetric Cases. Niedermaier.—p. 816.
New Speculum. Binz.—p. 817.
History of High Frequency Currents. P. Lenard.—p. 817.
Furunculosis of the Ear. F. Noltenius.—p. 817.

Epidemiology of Venereal Diseases.—Statistics collected by Buschke, Gumpert and Langer show that changes in the frequency of venereal diseases have been observed before now. Chancroid has a peculiar curve. They are inclined to attribute the decrease in syphilis observed in the last few years to unknown factors rather than to the use of arsphenamine. They mention a few reports that syphilis is increasing again in some countries, but do not attempt to correlate this with any legislative or other circumstances—especially not with the tendency to abolish control of prostitution.

Synthesis of Medicines.—Hörlein reviews the history of synthesis of drugs. Just as the first synthetic aniline dye (mauvein) was obtained by Perkin as the result of a failure to synthesize quinine, so the first simple synthetic antifebrile remedy (acetanilide) owed the discovery of its antifebrile action to a mistake on the part of a pharmacist, who dispensed it instead of naphthalin. The latter had been ordered by Cahn and Hepp in experiments on the treatment of intestinal parasites.

Buffered Stains for Anemic Blood.—Kleeberg and Leitner found that the best pictures of polychromophilia and basophilic stippling of erythrocytes were obtained when the staining solution (Giemsa or methylene blue) is buffered to maintain p_H 6.1.

74: 835-876 (May 20) 1927

*Studies in Predisposition. K. Kisskalt.—p. 835.
Symptoms of Cerebral Racemose Arterial Angioma. K. Eimer and K. Mehlhose.—p. 836.
Infectious Diseases and Syphilis. H. Ruge.—p. 838.
Abdominal Resection of Pelvic Colon. G. Seefisch.—p. 841.
Brain Injury. H. Kerschensteiner.—p. 844.
Treatment of Scoliosis. Gaugele.—p. 845.
A Corset for Scoliosis. Schlee.—p. 846.
*Ocular Symptom in Tabes. H. Haenel.—p. 847.
*Bromine in Hay-Fever. F. Hamburger.—p. 852.
Attempted Suicide with Phenobarbital. M. J. Gutmann.—p. 854.
Abscess or Hydatid Cyst of the Lung. Steinthal.—p. 854.
Juvenile Cirrhosis of the Liver. D. Kirschenblatt.—p. 856.
*Technic of Venesection. K. Barth.—p. 857.
Diagnosis of Leptospiroses. W. Schüffner.—p. 857.
Transformer for Galvanization. J. Kowarschik.—p. 857.
*Therapeutic Experiences. H. Schottmüller.—p. 860.
Occupational Diseases. Koelsch.—p. 864.

Studies in Predisposition as Function of Injuring Dose.—Kisskalt fed definite amounts of Gaertner bacilli to mice. With increasing doses, the mortality increased, at first slowly, then rapidly, then again slowly. The predisposition of the animals could be changed by various agents and estimated by the results. In this case, also, the mortality was not in direct proportion to the dose; the relation was probably exponential, similar to that between the infecting dose and the mortality.

Ocular Symptom in Tabes.—In 1909 Haenel published his observations on the absence of pain from pressure on the eyeball. The sign was noted in 50 per cent of patients with tabes. Unilateral increased tenderness of the eyeball in persons complaining of headaches suggests a disease of the accessory nasal sinuses.

Bromine in Hay-Fever.—In some cases of hay-fever Hamburger noted favorable effects from 1 Gm. doses of sodium bromide twice daily. It should be taken half an hour before leaving the house.

Technic of Venesection.—In patients whose arm veins are not visible, Barth performs venesection on the legs.

Therapeutic Experiences.—Schottmüller confirms the good effect of amidopyrine in hiccup. He starts with 0.3 or 0.5 Gm. and gives as many as five doses a day, if the hiccup returns. Doses up to 3 Gm. a day were beneficial in acute and chronic arthritis.

Wiener Archiv für innere Medizin, Vienna

14: 193-352 (May 20) 1927

Pathologic Anisocytosis. J. von Boros.—p. 193.
Macrocytosis. J. von Boros.—p. 219.
Serum Calcium in Asthma. W. Brednow.—p. 257.
Bronchial Respiratory Murmurs in Bronchoscopy. A. Winkler.—p. 273.
*Roentgen-Ray Diagnosis of Subphrenic Processes. E. Zdansky.—p. 295.
Agranulocytic Angina, Acute Leukemia and Sepsis. J. Weiss.—p. 303.
Sighing Respiration in Cardiac Dyspnea. H. Mond and S. Wassermann.—p. 335.
*Experimental Albuminocholia. W. Goldschmidt and R. Strisower.—p. 345.

Roentgen-Ray Diagnosis of Subphrenic Processes.—Disturbances of the diaphragm were observed by Zdansky as an early phenomenon in various subphrenic processes. The high position and paradoxic movement of the insufficient muscle should draw attention to its immediate neighborhood.

Experimental Albuminocholia.—Goldschmidt and Strisower affixed the gallbladder of dogs to the parietal peritoneum. This enabled them to puncture the gallbladder repeatedly without any apparent injury to the animal. They found an increased amount of proteins in the bile in various hepatic disturbances: toluylendiamine, phenylhydrazine, and parenteral injections of proteins gave positive results. Clinically, albuminocholia had been found in jaundice, cirrhosis of the liver and pernicious anemia.

Wiener klinische Wochenschrift, Vienna

40: 641-668 (May 19) 1927

Roentgen-Ray Treatment of the Nervous System. R. Lenk.—p. 641.
Roentgen-Ray Diagnosis of Lesions of the Appendix. A. Czepa.—p. 645.
Histogenesis of Bronchial Cancer. F. Feyrter.—p. 648.
Viper's Bite. O. Hoche and P. Moritsch.—p. 651.
*Blood Groups and Therapeutic Malaria. A. Pilcz.—p. 653.
Treatment of Rheumatism. R. Latzel.—p. 654.
Propedeutic Lectures and Internal Medicine. H. Elias.—p. 656.
Autohemotherapy in Sepsis. W. Linhart.—p. 657.
Circumscribed Hyperkeratoses. O. Kren.—p. 658.
Vertigo. S. Erben. Supplement.—pp. 1-14.

Blood Groups and Therapeutic Malaria.—In his material of sixty-three cases Pilcz did not find any apparent connection between the compatibility of blood groups and the success of malaria transmission.

40: 669-700 (May 26) 1927

Etiologic Treatment of Neuroses. H. Kogerer.—p. 669.
*Disturbances of Respiration in Parkinsonism. L. Hess.—p. 670.
*New Form of Epidemic Encephalitis. M. Pappenheim.—p. 674.
Intestinal Myoma with Perforation. G. Botstiber.—p. 674.
*Insulin as Antiemetic. H. Elias and E. Violin.—p. 678.
Rectoscopy. W. Zweig.—p. 678.
Conservative Treatment of Chronic Suppurations of the Middle Ear and Maxillary Sinus. G. Pichler.—p. 681.
Roentgen-Ray Examination of the Appendix. A. Czepa.—p. 682.
Coughing in Nontuberculous Children. R. Lederer.—p. 684.
The Duodenal Tube and the Practitioner. S. Bondi.—p. 685.
Treatment of Sciatica. B. Dattner.—p. 687.
Albuminuria and Life Expectation. E. Czyhlarz. Supplement.—pp. 1-16.

Disturbances of Respiration in Parkinsonism.—Hess discusses the pathogenesis of the attacks of hyperpnea that occur in chronic encephalitis, sometimes even in the acute stage. Experiments and histologic examination convinced him that the disturbance is due to a pathologic process in the region of the locus caeruleus.

New Form of Epidemic Encephalitis.—Cases of vertigo lasting for several days or weeks were observed by Pappenheim. Some anomalies of the tonus of the musculature were found. He believes that the syndrome is due to encephalitis.

Insulin as Antiemetic.—Elias and Violin used insulin in vomiting from various causes. The treatment was successful in most cases. Only patients with tumors of the brain, intestinal stenosis and hysteria were not influenced.

Zeitschrift f. d. ges. expermentelle Medizin, Berlin

54: 593-829 (March 31) 1927

Blood Nitrogen in Infections in Infancy. O. Beck.—p. 593.
Biochemistry of "Bayer 205." W. A. Collier.—p. 606.
Universal Respiration Apparatus. E. Grafe et al.—p. 613.
*The Spleen, the Liver and Fragility of Erythrocytes. G. Frenckell.—p. 631.
*Pharmacology of Curry. A. Guttenberg.—p. 642.
*Venesection and Resistance of Hemoglobin. F. von Krüger and W. Gerlach.—p. 653.
Antipyretic and Carbon-Nitrogen Ratio of the Urine. T. Taslakowa.—p. 669.
Interfereometric Diagnosis. A. Streck.—p. 677.
Regulation of the Movements of the Stomach by Body Fluids. A. von Jeney.—p. 695.
Reactions of the Pituitary. F. Poos.—p. 709.
Portal Stasis. S. Norlén.—p. 785.
True Cholemia in Cholascos. F. Rosenthal et al.—p. 795.
Action of Phlorhizin. S. Hetényi and J. Patai.—p. 816.
Fraction Determination of Blood Clotting. W. W. Prawdicz-Neminski.—p. 820.
"Subcutaneous Epinephrine Reaction." E. Kylin.—p. 826.

The Spleen, the Liver and Fragility of Erythrocytes.—Frenckell found that chloroform and ether anesthesia increase the fragility of erythrocytes in cats. The resistance of erythrocytes in blood from the splenic vein was about the same as in other venous blood. It was less than in arterial blood.

Pharmacology of Curry.—Guttenberg made chemical and pharmacologic studies on the root of curcuma longa. It contains a terpene which has a cholagogic action, passes, in part, into the bile and dissolves cholesterol in vitro.

Venesections and Resistance of Hemoglobin.—Krüger and Gerlach observed a temporarily increased resistance of hemoglobin to alkali after large venesections. Resorption of artificial hematomas was without influence, unless the blood was taken from the same animal.

Zeitschrift für Immunitätsforschung und exper. Therapie, Jena

51: 1-192 (May 18) 1927

Tetanospasmin and Tetanolysin. G. C. Reymann.—p. 1.
The Reticulo-Endothelial Apparatus and Recurrens. I. L. Kritschewski and P. L. Rubinstein.—p. 27.
Idem. A. W. Liegunova and A. P. Butjagina.—p. 56.
Gold Sol Reaction. H. Förtig.—p. 65.

Lipoid Antibodies in Rabbits in Immune Phase of Syphilis. J. Steinfeld.—p. 73.
*Anaphylactic Shock in Rats. M. K. Ebert.—p. 79.
*Antigenic Character of Some Constituents of Acid-Fast Bacilli. A. Korff-Petersen and W. Liese.—p. 87.
Thyroidectomy and Anaphylactic Shock. M. S. Fleisher and C. M. Wilhelmj.—p. 115.
Thyroidectomy and Surface Tension of Plasma in Shock. M. S. Fleisher and C. M. Wilhelmj.—p. 126.
Antibodies in the Frog's Blood. L. Schwarzmann.—p. 139.
Heterogenetic Antigens. E. Witebsky.—p. 161.
Importance of Bacteriophage for Diagnosis. A. Grumbach and A. Dimtza.—p. 176.

Anaphylactic Shock in Rats.—Ebert was unable to produce anaphylactic shock in rats injected with horse serum or sheep erythrocytes.

Antigenic Character of Some Constituents of Acid-Fast Bacilli.—Korff-Petersen and Liese extracted acid-fast bacilli with solvents of fats, which did not affect the acid-fastness of the bacilli or render them less gram-fast. The extracts could be used for complement fixation tests, but were not quite specific for the antibodies contained in the serum of tuberculous patients. Specific antigens were obtained by extracting with hot alcohol tubercle bacilli that had been treated with acids until they did not stain with Ziehl's nor with Gram's solutions.

Zeitschrift für Krebsforschung, Berlin

25: 1-104 (May 18) 1927

Tumors in Tarred Animals. C. Bonne.—p. 1.
*Alleged Protozoons in Cancer. O. Machiarulo.—p. 23.
Microscopic Cancer Metastases in the Spleen. T. Yokohata.—p. 32.
*Immunization Against Tumors. F. Reichert.—p. 62.
Immunization Against Cancer. E. Knopf.—p. 64.
Influence of Water on Cancer. F. Goldstein.—p. 71.
Histology of Experimental Tumors in Rats. H. Auler.—p. 78.
Cultivation of Pure Cancer Cell Strains in Vitro. A. Fischer.—p. 89.
*The Plastin of Tumefaciens Bacilli. H. Bechhold and L. Smith.—p. 97.

Alleged Protozoons in Cancer.—The peculiar "blue-white" cells, regarded by J. Koch as protozoons, are shown by Machiarulo to be only degenerated cells. They occur not only in tumors, but in all other necrotic tissue.

Immunization Against Tumors.—Reichert injected rats with 0.5 cc. of a suspension of equal parts of the fresh spleen, liver and muscles of guinea-pigs in ten parts of physiologic solution of sodium chloride. From six to seven injections were given subcutaneously at intervals of one week. Inoculation with a virulent tumor suspension, made about four to six weeks after the last injection, resulted in tumor in only about 5 to 7 per cent of the experiments, as against 74 to 84 per cent in the controls.

The Plastin of Tumefaciens Bacilli.—The term "tumefaciens-plastin" is suggested by Bechhold and Smith for the substance that causes atypical growths in plants. It is not a living virus. It passes ultrafilters which retain particles of a diameter of 20 millimicrons. Consequently the agent is at the utmost a colloid in fine dispersion. It resists boiling for twenty minutes and the action of a 1 per cent solution of phenol for one hour. It is not lactic acid, an inorganic salt, or a fatty acid.

Zentralblatt für Chirurgie, Leipzig

54: 769-832 (March 26) 1927

*Wohlgemuth's Test in Acute Diseases of the Pancreas. E. Unger and H. Heuss.—p. 770.
Tenodesis in the Transosseous Fixation of the Peroneus Tendon. M. Hackenbroch.—p. 772.
Destruction of Hollow Organs Lined with Mucous Membrane. F. J. Kaiser.—p. 774.
Telescopic Anastomosis. R. Goepel.—p. 777.
*New Applications of Lorenz' Bifurcation. J. Hass.—p. 783.
Encysted Inguinal Hernia. J. Knopp.—p. 786.
Dislocation of Both Phalanges of the Thumb. A. H. Hofmann.—p. 788.
Treatment of Anal Fissure. J. Philipowicz.—p. 788.
Treatment of Fracture of the Neck of the Femur Below the Head. C. E. Jancke.—p. 790.
Rapid Method of Preparing Protective Dressings with Cellon. H. Magnus.—p. 794.

Urinary Diastase in Acute Pancreatic Diseases.—Unger and Heuss report on eighteen additional cases of acute disease of the pancreas, in which Wohlgemuth's test for increase of diastase in the urine was applied. This brings the number of cases they have reported up to thirty-one, and in all but two (a case of abscess of the pancreas and a case of pancreatic necrosis with associated nephritis) there was a pathologic increase of the diastase values in the urine. The test was carried out in more than 100 cases in which the abdominal symptoms were not clear, and proved negative when the pancreas was not involved.

New Application of Lorenz's Bifurcation.—Hass has adapted Lorenz's bifurcation successfully to cases of coxa vara luxans (fissure of the neck of the femur developing from coxa vara and resulting in a sort of dislocation without luxation of the head) and to old tuberculous coxitis with pathologic luxation. He believes it might also be applied with benefit to many cases of true progressive arthritis deformans. The modifications are shown on diagrams.

Zentralblatt für Gynäkologie, Leipzig

51: 705-768 (March 19) 1927

Serologic "Alcohol Reaction" in Early Pregnancy. H. Munter and E. Gräfenberg.—p. 705.
Diabetes and Pregnancy. L. Kraul.—p. 709.
*Insulin and the Ovary. E. Vogt.—p. 719.
Menstruation and Pregnancy in Typhoid Fever. E. Kohn.—p. 736.
Pulmonary Tuberculosis and Pregnancy. E. Gross.—p. 744.
Etiology of Tubal Pregnancy. W. Lahm.—p. 752.
Rupture of the Uterus. H. Kupferberg.—p. 757.
*A Hitherto Unknown Action of Ergot. N. Louros and H. E. Scheyer.—p. 763.

Insulin and the Ovary.—Vogt reports good results in the treatment of menorrhagia by insulin. From 40 to 50 units a day were given. He warns that the midday and evening meals, before which the injections are made, must contain at least 30 Gm. of carbohydrates each, and that measures to combat hypoglycemia must be ready to hand. The treatment was usually started in the second half of the menstrual period and was continued for three or four days, or until the bleeding showed signs of stopping. He discusses the action of insulin on the endocrine system.

A Hitherto Unknown Action of Ergot.—Ergot was found by Louros and Scheyer to exert a favorable influence on experimental streptococcus infection in white mice.

51: 769-832 (March 26) 1927

*Sources of Error in Interfereometric Sero-Diagnosis. E. Küster and K. Koulen.—p. 770.
Tubal Implantation and Pregnancy. R. Michaelis.—p. 779.
*Eclampsia in Mother and Child. E. Schwarzkopf.—p. 783.
Hemostasis After Labor. F. Kermauner.—p. 787.
*Bleeding to Death After Abortion. M. Oing.—p. 789.
Development of Social Gynecology. A. Niedermeyer.—p. 791.
Simultaneous Extra-Uterine and Intra-Uterine Pregnancy. R. S. Hoffmann.—p. 799.
Cholesteremia in Pregnant Women. K. Hellmuth.—p. 802.
Roentgen-Ray Abortion. J. Molnár.—p. 804.
Formation of a Vagina from Meckel's Diverticulum. B. N. Wassiliew.—p. 806.

Sources of Error in the Use of the Interfereometer for Testing Abderhalden's Reaction.—Küster and Koulen found that the swelling of the dry organ powder in the serum under examination was able to simulate decomposition in the interfereometric measurement. They describe a method of obviating this source of error, based on preliminary swelling of the powder.

Eclampsia in Mother and Child.—Schwarzkopf records typical eclamptic attacks in the new-born child of an eclamptic mother. The child was well developed, the birth was spontaneous and the maternal pelvis was not contracted. There were no grounds for suspecting brain hemorrhage. The mother was a primipara, aged 36; she had had a number of eclamptic attacks before entering the clinic and had six while there. The attacks in the child began thirteen hours after birth. On the first day of life there were four attacks, on the second day six. Thereafter, under administration of 0.2 Gm. of calcium chlorate six times daily, they diminished in frequency, and ceased entirely after the fourth day. Four weeks after discharge, mother and child were well. It is supposed that the toxin circulating in the mother's blood passed the barrier of the placenta and entered the child's circulation.

Bleeding to Death After Abortion.—A case of fatal hemorrhage following spontaneous abortion in the third month is reported by Oing. The patient was a tripara, aged 38, a healthy and strong peasant woman. A lesion of the cardiovascular system was not present, nor were there any injuries in the genital tract.

Russkaya Klinika, Moscow

7: 315-468 (March) 1927. Partial Index

Morbidity Rate of Primary Cancer of the Lung. P. Perfilieff.—p. 315.
*Mechanism of Hyperglycemia. S. A. Pospeloff and G. A. Raevskaya. —p. 326.
Rôle of Ascarides in Hemorrhagic Necrosis of the Pancreas. A. A. Bayder.—p. 391.

Study of the Mechanism of Hyperglycemia.—Pospeloff and Raevskaya's researches were conducted on rabbits and on man. In the animals, introduction of a stomach tube or of water did not cause any changes in the blood sugar. It was increased by inhalation of ammonia or hydrochloric acid vapors and by chloroform or ether anesthesia. Administration of water, oil, magnesium sulphate or barium sulphate did not modify the blood sugar in three diabetic patients or in five nondiabetic persons. Patients with various diseases were given levulose simultaneously with sodium bicarbonate or with hydrochloric acid. Alkali appeared to inhibit alimentary hyperglycemia, except in patients with lesions of the liver. Acid enhanced the hyperglycemia. In patients with fever, the assimilation of carbohydrates was reduced. Psychical irritation of the digestive tract, such as the chewing of food, was without effect on the blood sugar. Changes in the blood sugar appear to be connected with those in the electrolytes and in the reaction of the blood.

Acta Ophthalmologica, Copenhagen

4: 193-288

Angiomatosis Retinae and Brain Complications. A. Lindau.—p. 193.
Formation of Precipitates in Profound Keratitis. H. Ehlers.—p. 227. In English.
Reactions of Normal Eyes in Patients Treated with Sanocrysin. C. Edmund.—p. 237. In English.
Luxation of Secondary Cataract into the Anterior Chamber. M. Vannas.—p. 262. In English.
Case of Syphilitic Hypopyon Keratitis. E. Enroth.—p. 271.
Severe Burns of Both Eyes from Ammonia. H. Teräskeli.—p. 274.
"On Periodic Episcleritis and Heredity." O. Heinonen.—p. 278.
Case of "Letter" Keratitis. O. Blegvad.—p. 281.
Case of Necrotizing Iritis. C. Lottrup-Andersen.—p. 284.

Hospitalstidende, Copenhagen

70: 359-382 (April 21) 1927

*A New Method of Culturing Epithelium. O. Kapel.—p. 378.

A New Method of Culturing Epithelium.—Kapel used small pieces of cerebrum or cerebellum of chicken embryos, from 10 to 13 days old. Chicken plasma and embryonal extract were employed as culture medium. After forty-eight hours there was liquefaction of a great part of the coagulated culture medium adjacent to the tissue transplant. This was followed by an outgrowth of round or irregular ameboid-like processes. At this stage the cultures were transferred to fresh media, and after another period the same phenomenon recurred. When the cultures were transferred a second time, wide membranes grew out from the cultures. The tissue was then placed on the surface of the partly coagulated plasma and covered with a drop of embryonal extract. Treated in this manner, it grew readily and only the characteristic membranes remained. From three to four days should elapse between each transfer. The original tissue lost its specific character entirely, but in the cultures there were cells in the stages of mitosis and of amitosis. Without doubt one cell of this culture can be grown indefinitely, in the same manner as fibroblasts, sarcoma cells and epithelium, as formerly cultured.

Norsk Magazin for Lægevidenskapen, Oslo

88: 425-560 (June) 1927

*Changes in Skin and Organs in White Mice After Painting with Tar. G. Guldberg.—p. 425.
Cause and Development of Concomitant Strabismus. H. Schiøtz.—p. 452.
*Tuberculosis Resistance. J. Heimbeck.—p. 457.
Perforating Ulcer of the Stomach. N. Paus.—p. 488.
Modern Surgery of the Sympathetic. J. Holst.—p. 491.
Reaction of the Organism During Resorption of Its Own Modified Tissue. S. Widerøe.—p. 500.

Changes in Skin and Organs in White Mice After Painting with Tar.—The epithelial tumors that Guldberg produced in white mice by painting with tar presented a continuous series of development from papillomas with incipient infiltrating growth to fully developed carcinomas. The type of tumor appeared to depend on the duration of the painting and on the length of time that the animals survived. These growths infiltrate the skin and subcutaneous tissues and involve the blood vessels and nerves. In twenty-five mice there developed altogether one papilloma, three incipient carcinomas and seventeen fully developed carcinomas, six of which metastasized in the lymphatic glands and lungs. The fully developed carcinomas were highly heterogenic, four of them Guldberg designates as irregular carcinomas, since they were constructed of spindle-shaped cells which he regards as epithelial cells. The remaining fully developed carcinomas were all pure squamous epithelial carcinomas consisting partly of highly differentiated epithelium with abundant development of cancroid pearls, partly of slightly differentiated or entirely undifferentiated cells. In most of the pure squamous epithelial carcinomas of this series, however, there was a mixture of both differentiated and undifferentiated cell forms in varying proportions. In addition to a local effect, the painting with tar produced a general toxic effect with changes in the internal organs. In the spleen both myelogenous changes and amyloid degeneration were present. The myelogenous changes began to develop in the course of the first three or four weeks and were present in a marked degree after 74 days' painting with tar. Amyloid degeneration was not seen with certainty until after 250 days. In the liver there was considerable epithelial degeneration with abundant intracellular deposit of blood pigment as well as numerous lymph and leukocyte infiltrations. In all animals that lived more than 100 days, chronic interstitial nephritis was found. In most of the animals there was bronchitis, sometimes bronchopneumonia. In all the organs examined, particles of tar were found deposited in intercanalicular and intracellular spaces.

Tuberculosis Resistance.—Heimbeck carried out a series of investigations on the prevalance of tuberculosis among nurses in training. He found that about one half of nurses aged from 20 to 25 years react positively to the Pirquet test when they enter training. These, he states, seldom contract tuberculosis, while many of those giving a negative reaction contract tuberculous diseases, so that nearly all gradually become Pirquet-positive. He also found that small doses of BCG bacilli injected subcutaneously in a person giving a negative Pirquet reaction will develop a positive reaction without causing any special discomfort. This reaction has remained positive for as long as nine months. Time will show whether this is a tuberculin hypersensibility or a natural reaction providing increased resistance or immunity to tuberculosis.

Ugeskrift for Læger, Copenhagen

89: 483-502 (June 9) 1927

A Case of Suicide by a Variety of Means. J. Fog.—p. 483.
*Nystagmus in Monocular Vision. E. Holm.—p. 485.
*Fistula Treated with Syrupus Sacchari. E. Boas.—p. 487.
Cooperation Between Physicians and Teachers in Physical Training. K. Secher.—p. 494.

Nystagmus in Monocular Vision.—Holm states that in congenital or early acquired monocular vision jerking nystagmus is a frequent phenomenon; in some cases it appears only in lateral movements of the eye or in looking straight ahead. In patients with amblyopia of the squinting eye such nystagmus has not been observed, but in alternating strabismus nystagmus is not infrequent. In nystagmus with perfect vision of both eyes it must be determined whether or not they move simultaneously.

Fistula Treated with Syrupus Sacchari.—Boas treated a series of fistulas successfully with syrupus sacchari. The treatment is as follows: The ulcer is cleaned with dry gauze and the fistula filled completely with syrupus sacchari, either through a cannula or an old ureteral catheter, then dressed with sterilized cotton. The treatment is repeated every two days till healing, which requires about eight days to three months. In all twelve fistulas were treated, eight tuberculous, two congenital fistulas of the neck, one osteomyelitic and one ureteral. Five of the eight tuberculous fistulas healed, three remained unchanged. One of the neck fistulas was unaffected, in the other healing occurred after six injections. The osteomyelitic fistula improved quickly and the ureteral fistula healed after five weeks. Ultraviolet rays were also applied.